# MAY 22, 1961 PURCHASING



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- ✓ How two companies handle it
- ✓ Tips from an expert

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A CONOVER-MAST PUBLICATION

SEVENTY-FIVE CENTS

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# Announcing A Major "Break-Through" In Cutting Fluid Performance

# FIVE-STAR CINCOOL

From the Research Laboratories and Production Proving Grounds of Cincinnati Milling Comes This Remarkable New Product With These Proven Advantages:



**TROUBLE-FREE.** At lean, low-cost dilutions, Five-Star Cimcool goes into your machines and stays put with no problems! It lasts a long time and is extremely dependable.



NO ODORS. New bactericides keep Five-Star CIMCOOL in operation four to six times as long as other fluids.



**EXCEPTIONAL RUST PROTECTION.** Two different types of rust inhibitor in this *eingle-mix* concentrate provide up to 300% more rust control. This rust-control ability permits leaner dilutions, saves you money.



FCLEAN AND SAFE. Five-Star CIMCOOL is just as clean as fresh, clear water to work in. It feels, smells and looks good. It will not smoke or catch fire. Good reasons why operators like it.



**LENGTHENS TOOL** LIFE. Production tests prove this new concentrate is second to none in providing *non-stop production*, because of its exclusive CIMCOOL EP, friction-reducing chemicals.



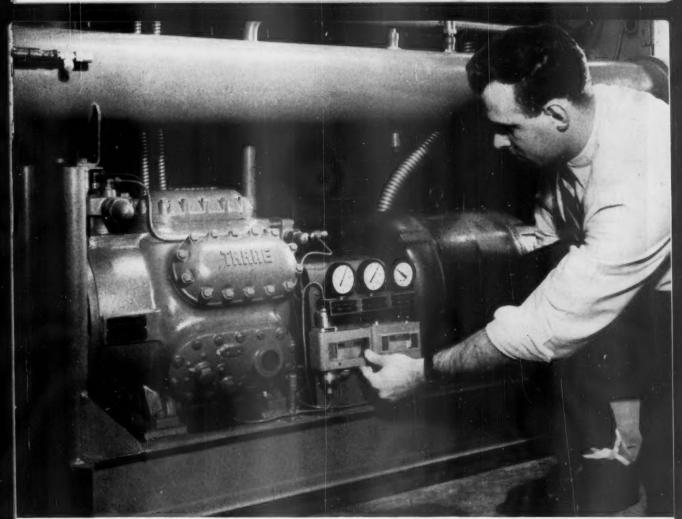
FOR 100% OF ALL METAL CUTTING JOBS

Production-Proved products of The Cincinnati Milling Machine Co.

FIVE-STAR CIMCOOL—Newest in the industry-proven line of CIMCOOL® Cutting Fluids. CIMPERIAL®—Heavy duty replacement for cutting oils in those low-speed tough jobs. CIMPLUS—The transparent grinding fluid which provides exceptional rust control. CIMCUT Concentrates (AA, NC, SS)—For every job requiring an oil-base cutting fluid. ALSO—CIMCOOL Topping Compound—CIMCOOL Bactericide—CIMCOOL Machine Cleaner.

For full information on the complete family of CIMCOOL Cutting Fluids, call your CIMCOOL Distributor. Or contact Cincinnati Milling Products Division, Cincinnati 9, Ohio.

<sup>e</sup>Trade Marks Reg. U.S. Pat. Off.



New Century 30 hp part-winding start motor driving reciprocating compressor. Compressor is part of an air conditioning system in an industrial test and research laboratory.

# New Century Electric motor for part-winding start

Problem: power company restrictions limit inrush current...a part-winding start motor is called for, but... acceleration must be smooth and quiet with no risk of stalling at two-thirds of full speed.

Answer: the new Century part-winding start motor.

A special winding scheme makes this performance possible. So now you can have part-winding start, dependable power and smooth acceleration all in the same motor. Century part-winding motors provide the most economical and dependable way of starting equipment such as fans, blowers, centrifugal pumps and compressors, as well as reciprocating compressors with unloading valves (like the one shown here). They are available

in 20 to 150 hp sizes and in speeds of 1200 and 1800 rpm.

Why do Century Electric part-winding motors provide reliable power? Here are a few of the reasons: windings are dipped and baked with several coats of a high temperature synthetic varnish which protect against oil fumes, mild acids, dust and grit . . . rotors are dynamically balanced so motors run smoothly and quietly . . . rugged cast iron frame gives long life and reduces noise level . . . coils are insulated with a tough polyvinyl resin.

For more information on Century's complete line of motors (1/20 to 400 hp) please contact your local Century Electric Sales Office or Authorized Distributor.

### CENTURY ELECTRIC COMPANY

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FIRST CHOICE
TO

It was Lyon by a landslide in a 1955 preference survey conducted by an independent organization among key men in companies throughout the country. They gave Lyon 5 times more first choice votes than the next highest manufacturer.

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DIVERSIFIED LINE
OF STEEL EQUIPMENT
IT'S FREE!

METAL PRODUCTS

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how Parish ingenuity reduced a forming operation to 1/1,000 of a second!



Operator removing an outer warhead shell formed and shaped by explosives.

problem:

How to reduce the time and cost involved in forming large aluminum alloy missile warheads.

solution:

Parish research engineers reduced the forming rate of aluminum inner and outer warhead shells to 1/1,000th of a second with explosives. A split die equipped with vacuum seals and an open top was used, with water serving as a transmitting medium for the Primacord explosive. Parish ingenuity dramatically reduced forming rates while keeping springback and work hardening to a minimum.

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## The Methods and News Magazine For Industrial Buyers PURCHASING

May 22, 1961 VOLUME 50, No. 11

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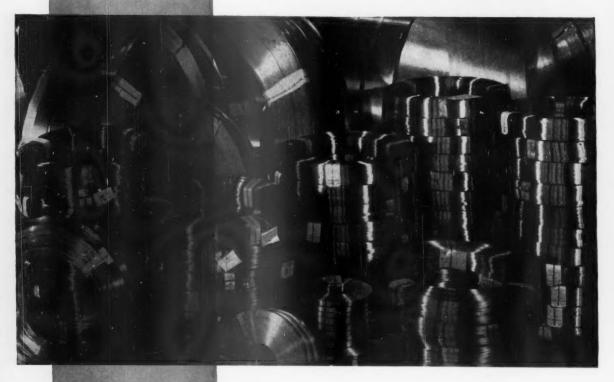
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SPECIAL	L SECTION ON PURCHASING TRAINING	
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### **Pulse of Business**

### No Fight Over Space Spending

### Is a New Round of Inflation Coming?

A NY CONGRESSIONAL resistance to higher outlays for space exploration just about vanished with the successful American space shot. When Commander Shepard's capsule floated down and he emerged unharmed, plans were being made to increase appropriations. No one was surprised, therefore, when the President asked for additional money to accelerate the space program.

His request will have only a limited effect on the federal budget for the current year, but could mean up to \$500 million more in fiscal 1962 which ends in June of next year. This could bring total federal expenditures over \$85 billion for fiscal 1962 as against \$81 billion for the current fiscal year.

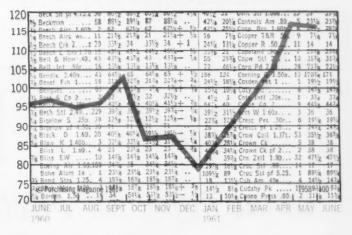
Will this bring a renewed threat of inflation? It might very well do that unless the economic picture improves quickly enough to bring in greater federal revenues. A sizable deficit in the federal budget is anticipated for both this year and next on the basis of current receipts. The deficit projected is about \$2.2 billion for this year and \$4.3 billion for 1962.

But space technology expenditures can throw all budgetary estimates into a cocked hat. The National Aeronautics and Space Administration has projected estimates of \$1 billion between June 1961 and June 1962. If the nation really decides to lock horns with the Soviets and literally shoot for the moon in the next five years, additional expenditures of \$20 to \$40 billion will be needed to put the program into effect.

Another inflationary threat is contained in the new minimum wage law which goes into effect in September. Over 3.6 million workers not now protected by minimums will come under this umbrella. Many of these workers are already getting the minimum, or more, even though such minimums up to now are not mandatory. Eventually it is estimated that a total of 28 million workers will receive some benefits from the new wage law, mainly through steps that will be taken to maintain differentials between the lowest and highest paid workers. (Turn Page)

### **Business Confidence Index**

How P.A.'s feel about the short-term economic outlook



Purchasing Magazine's Business Confidence Index fell off a notch in May to 116 (1958—100). However, purchasing agents are still quite optimistic about business conditions during the next three months.



### Ask your local Gates Engineer to show how Super HC Drives save space, weight, money

If the sheaves and V-belts of a machine need replacing or if a chain, gear or other type of drive isn't giving you good performance, your local Gates Field Engineer will be glad to help you. He can show you how to take full advantage of the many opportunities offered by Gates Super HC High Capacity Drives.

Ask him to design a drive for your machine two ways: A conventional V-belt drive and a new Gates Super HC High Capacity V-Belt Drive. A quick comparison will show you many of the important savings provided by the new Gates drive.

Industrial plants everywhere have standardized upon the Gates Super HC V-Belt Drive—industry's first and most advanced high capacity drive. It is your best assurance that your power transmission unit will not soon become obsolete.

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Handles up to 3 times more horsepower than conventional V-belts in same space.

Saves up to 50% in drive space. Reduces drive weight 20% and more.

Cuts drive costs as much as 20%. Reduces bearing load, increasing bearing life.

Guards can be smaller, lighter weight. Belt speed up to 6000 ft/min possible without dynamic balancing.

Less costly, higher speed motors can often be used.



Exclusive design features include: precisely engineered arched top, concave sidewalls, Flex-Weave cover, super strength tensile construction.

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### **Pulse of Business**

### **PRODUCTION**

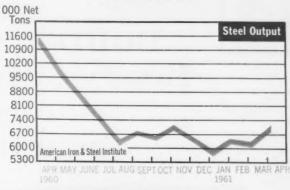
Arthur J. Goldberg, Secretary of Labor, in Congressional hearings on the new bill, said that it would pump \$578 million into the economy almost immediately. Later he estimated that in the first year following enactment, disposable consumer income will be raised by \$800 million.

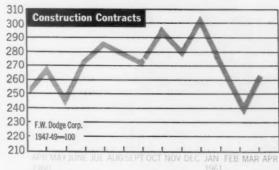
With few exceptions increased manufacturing and distributing costs from the new minimum will be passed along to the consumer. Retailers, however, will find themselves in a tighter squeeze than the manufacturers. Not only will they be paying higher prices for a wide range of consumer goods, but they also will find their direct wage costs rising anywhere from 7% to 17% as many thousands of retail employees receive mandatory salary increases.

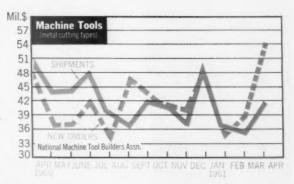
Higher minimums will compel retailers to review their selling policies and methods of doing business. The conventional store owner finds himself in a tight competitive squeeze with the growing popularity of discount houses and expansion of soft goods selling in supermarkets and chain variety stores. He is subject not only to a higher basic wage but also to an increase in over-time payments as a result of the shorter work-week which the wage bill prescribes.

Large retailers will step up installation of automated devices for credit checking, charges, and billing, also expand the use of new devices for ticket marking and merchandise handling. Manufacturers and wholesalers also will reexamine their costs to determine what savings can be made in production, materials handling, billing, shipping and warehousing.

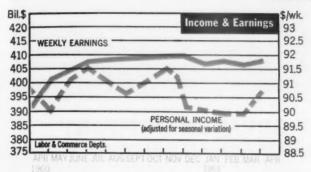
The recession, of course, also created a profit squeeze. The First National City Bank reports

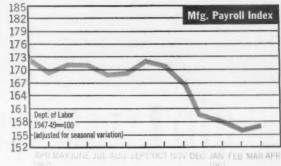






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# BullDog's heavy-duty safety switch!

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. . . Plus—all current-carrying parts are silvered. Available through 1200 amperes in NEMA 1 and NEMA 3R enclosures . . . competitively priced. Challenge our field representative to prove these switches are the finest . . . or write for details.



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### I-T-E CIRCUIT BREAKER COMPANY

BULLDOG ELECTRIC PRODUCTS DIVISION

### **Pulse of Business**

### TRADE

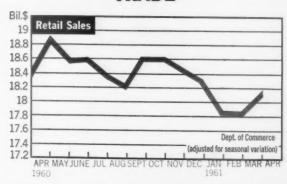
that in the first quarter of 1961, earnings of 692 nonfinancial corporations show a 15% drop after taxes compared to the preceding quarter, and a 19% decline compared to the first quarter, of 1960. Manufacturers in the group lost 14% from the fourth quarter and 22% from the March quarter of 1960.

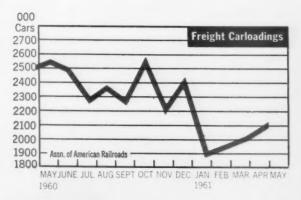
Sharpest declines were registered in the durable goods industries. Hardest hit were the auto and steel companies. However, machinery manufacturers registered a 17% profit gain over first quarter 1960 and 18% over fourth quarter. Increased foreign sales contributed to the machinery uptrend.

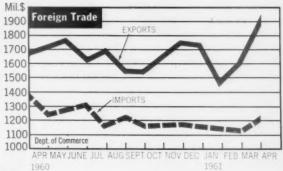
Tobacco products chalked up an 8% rise over first quarter last year and petroleum producers and refiners a gain of 17%, mainly because of the prolonged cold spell. Transportation equipment, other than automobiles, registered a whopping 25% gain.

Steel bids fair to make a comeback in the current quarter. A steel rate of about 65% is expected for the quarter and it should continue at that average level through the third quarter, rising to about 75% in the last quarter of the year, barring serious labor troubles in the automobile industry.

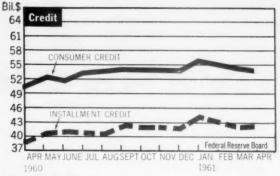
The automobile trades continue to give the steel market active support, but other industries have been coming through as well. The big question mark is what will happen in July and August when the automobile industry shuts down for model changeovers. There is also speculation about the possibility of prolonged shutdowns if the automakers and the union fail to get together on a new labor contract.

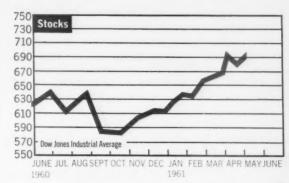


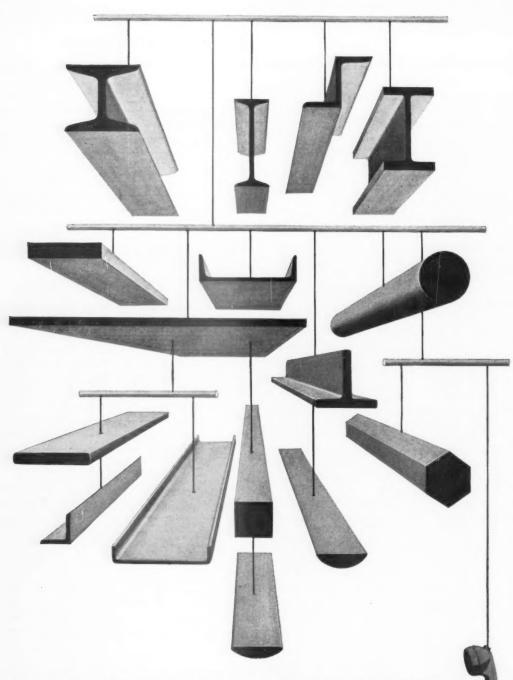




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12

PURCHASING

## Straws in the Trade Wind

- ► SEMINARS FOR P.A.'S—A series of seminars for buyers of semi-conductors has been started by Texas Instruments and one of its New England distributors, Lafayette Radio Corp. The three-session seminars are part of the "Goalpost" program—General Orientation and Analysis Lectures for Purchasing Officials' Semi-Conductor Training. Through lectures, slides, and booklets, P.A.'s learn about transistor theory, methods of manufacture, industrial applications, and the role of the distributor.
- ▶ KEROSENE COMEBACK Kerosene, which was the petroleum industry's largest selling product until gasoline took over in 1911, is making a strong comeback because of its use in jet fuel. Between 1959 and 1960, demand for kerosene rose more than 19%—making it the industry's fastest growing major product. This year, demand will exceed 144 million barrels, compared with 132 million barrels last year, predicts the Bureau of Mines.

### For the P.A.'s Hot File . . .

Pressure from high transportation costs will get much worse in the next few years, predicts Dr. Merle Welshans, professor, Washington Univ. Speaking at a convention of the National Assn. of Educational Buyers, Welshans said common carrier freight rates will go up at least 5% a year for the next three years. He also believes that the high cost of transportation will cause far reaching changes in our industrial complex. Large firms will step-up the trend toward diversification in an attempt to establish their own local supply points. For the same reason, large companies will encourage small manufacturers to decentralize.

- ▶ HIGH SPEED TAPE TRANSMISSION—By combining a new teletypewriter with the existing telephone network, Bell Telephone System has produced a high speed teletypewriter tape transmission system. The system can send and receive 1000 words per minute, which is ten times faster than present equipment. Designed for customers with heavy message loads, the system offers economies through reduced line charges. Initial installation is scheduled for the end of this year.
- ► PROBING DEFENSE PROCUREMENT A new probe of Defense Department procurement policies has been proposed by Sen. William Proxmire (D-Wis.). He accuses the military of evading the intent of Congress by negotiating most of its contracts instead of publicly advertising them. The Senator calls it "a shocking fact that less than \$1 out of \$7 of defense procurement is by advertised competitive bid."
- ▶ BUSINESS FORMS SALES UP Despite the recession, the flow of paperwork in industry is continuing to rise. Sales of business forms last year rose \$25 million to \$450 million, reports the Business Forms Institute. Only five years ago, volume stood at \$250 million annually.
- be CONSTRUCTION COSTS RISING—If you have some small-scale construction projects planned which you put off during the recession, you probably missed the boat. The outlook for at least the short term is that construction costs will be rising. As with so many other things, it's during a recession that you are likely to get more for your construction dollars.
- ▶ DIE CASTING USE DOWN IN '60—Consumption of both aluminum and zinc die castings was off last year from 1959—largely because of the trend to compact cars. (Compacts made up 30% of the passenger cars produced in 1960.) Dollar volume of custom die casting shipments during the year totaled \$382,750,000—3.1% less than in 1959.

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He carries your needs from the complete line of Carmet Carbide Tools in all grades and every style. He is geared to deliver your orders quickly—a phone call gets action.

And if you get in a production jam, special service is his middle name. Remember, your Carmet distributor knows carbide tooling—with the help of the local Carmet technical man, you get all the help you need.

Your Carmet distributor handles the best Carbide Tools and backs it with the best service! Allegbeny Ludlum Steel Corporation, Carmet Division, Ferndale, Detroit 20, Michigan.

SEE CARMET AT BOOTH 2233 AT THE TOOL SHOW

CARMET A



1800

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### **Pulse of Business**



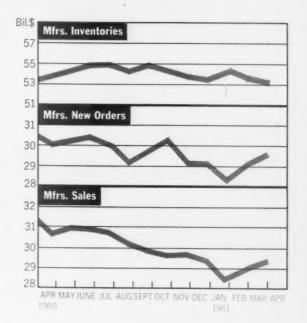
### Sales, Orders Rise, but Stocks Drop Sharply

Manufacturers' sales and new orders rose in March for the second consecutive month. The trend toward inventory reduction continued, as stocks were cut at an even faster rate than in the two preceding months, reports the Department of Commerce.

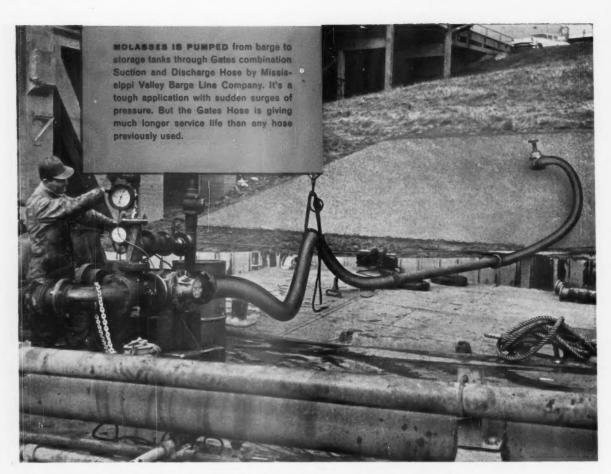
New orders increased \$700 million to \$29.8 billion, marking the highest level since last September. Raw and fabricated metals, along with non-electrical machinery, showed the largest gains.

Sales rose \$500 million to \$29.5 billion. Among the industries recording sizable advances were transportation equipment and building materials.

Factory inventories dropped \$300 million to a seasonally-adjusted rate of \$53.5 billion. The cutbacks were confined to durable goods producers.



· ·	1960			1961		
Manufacturers' Sales Seasonally Adjusted (Millions of Dollars)	Mar.	Nov.	Dec.	lgn.	Feb. (r)	Mar. (p)
All Manufacturina Industries	30,840	29,250	29,140	28,670	29,030	29,500
	15,170	13,810	13,620	13,170	13.320	13,710
Durable-goods industries Primary metal	2,540	1,790	1,750	1,760	1,810	1,800
Fabricated metal	1,690	1,570	1,580	1,550	1,560	1,630
•	4,750	4,610	4,580	4,650	4,650	4,680
Machinery	3,460	3.300	3.150	2,770	2.830	3,030
Transportation equipment	880	790	800	740	730	770
Lumber and furniture	700	700	700	690	700	750
Stone, clay, and glass	700	700	700	090	700	730
Non-durable goods industries	15,670	15,440	15,510	15,500	15,710	15,780
Food and beverages	4,710	4,660	4,740	4,730	4,870	4,790
Tobacco	420	420	390	410	410	420
Textile	1,200	1,130	1,140	1,080	1,110	1,140
Paper	1,050	1,050	1,060	1,060	1,080	1,090
Chemical	2,300	2,220	2,260	2,260	2,300	2,390
Petroleum and soal	3,160	3,190	3,220	3,230	3,180	3,090
Rubber	510	500	470	450	460	470
Manufacturers' Inventories						
Seasonally Adjusted (Millions of Dollars)	53,340	54,010	53,640	53,670	53,600	53,340
All manufacturing Industries	31,770	31,070	30,790	30,760	30,650	30,310
Durable-goods industries	4,450	4,520	4,500	4,490	4,510	4,460
Primary metal	3,330	3,100	3.090	3,020	3,020	2.950
Fabricated metal	10,480	10,350	10,350	10,320	10,280	10,270
Machinery	7.640	7.020	6,840	6,920	6,860	6,700
Transportation equipment	1,860	1,930	1,850	1,850	1.850	1,820
Lumber and furniture			1,440	1,440	1,430	1,410
Stone, clay, and glass	1,420	1,430	1,440	1,440	1,430	1,416
Non-durable goods industries	22,570	22,930	22,850	22,910	22,950	23,030
Food and beverage	4,820	4,960	4,970	5,000	5,010	5,060
Tobacco	1,950	2,020	2,010	2,010	1,980	1,980
Textile	2,670	2,660	2,670	2,700	2,730	2,760
Paper	1,540	1,650	1,630	1,620	1,630	1,630
Chemical	4,060	4,180	4,160	4,170	4,190	4,190
Petroleum and coal	3,330	3,300	3,280	3,290	3,320	3,320
Rubber	1,160	1,140	1,120	1,130	1,130	1,140
Manufacturers' New Orders						
Seasonally Adjusted (Millions of Dollars)	30.290	29,020	28,700	28,500	29,110	29,830
All manufacturing Industries	14,640	13,600	13,220	12,880	13,360	13,880
Durable-goods industries				15,620	15,760	15,940
Non-durable goods industries	15,660 (r) Revised.	15,420	15,480	Preliminary.	12,700	13,740



For molasses or any fluid . . . there's a dependable Gates Hose to convey it!

In any industrial plant, wherever air, water, steam or other fluid must be conveyed, there is a Gates Hose specially built to do the job, and do it exceptionally well. Every Gates Hose is constructed throughout to give you long, trouble-free service, reducing your hose replacement costs.

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HOSE is made sturdy
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A Gates Hose for any industrial need is quickly available from your nearby Gates Distributor:

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### **Pulse of Business**

### The Trend of Prices



### Copper Price Firms as P.A.'s Boost Inventories

Buying of nonferrous metals by purchasing agents has picked up slightly. With industrial production on the rise, more raw materials are needed to keep the nation's plants and factories humming.

This is the current picture in some of the major nonferrous metals bought by P.A.'s:

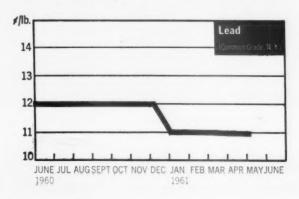
Copper: The domestic copper market is still subject to upward pressure, despite the recent price increase. Stimulated by the political turmoil in the Congo, fears of unrest in Northern Rhodesia, and a possible work stoppage in the Midwest after June 30th, buyers are boosting their inventories to cover them over a long period.

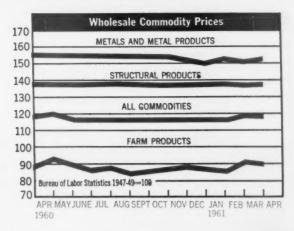
The copper price increase touched off a surge of buying by purchasing agents of brass mill products in an attempt to beat price hikes. Most of the purchases were for standard items, such as rods, tubes, and pipe.

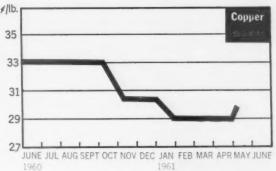
Shipments of copper fabricators in March set an 18-month high of 115,163 tons. Indications are that shipments last month were even higher

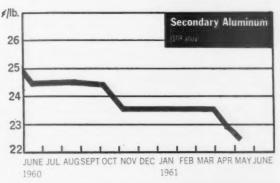
Lead: Lead buying has been at a steady pace. Recently, the government placed lead back on the barter list of metals and materials in an effort to cut world surplus supplies. The deals—whereby surplus American agricultural products would be sold to friendly foreign nations in exchange for lead—can be made only if the other countries agree to curtail output.

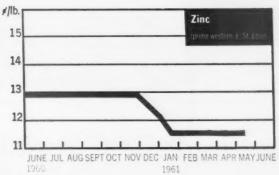
The price of lead should increase before the end of 1961, says Charles R. Ince, vice presi-











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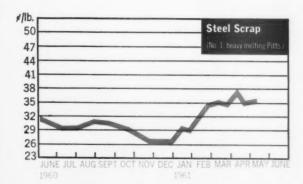
THE WM. POWELL COMPANY CINCINNATI 22, OHIO

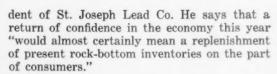
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### **Pulse of Business**

### **More on Price Trends**





Zinc: Buyers for steel mill galvanizers have been in the market recently for prime western grades of zinc used as a protective coating on steel products. However, demand for special high grade used by the automobile industry, continues to lag.

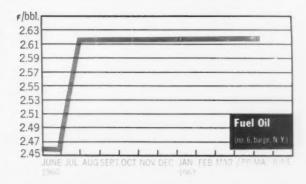
Inventories of slab zinc by domestic smelters totaled 219,253 tons at the end of last month. This is a 3636-ton decline from the stocks held in the previous month.

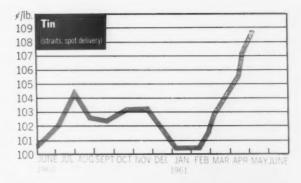
Tin: The recent strength in the tin markets is due to a number of factors. These include the production stoppage in the Congo last December, lower output from Indonesia and Bolivia, monsoons in Malaya, and authoritative estimates that the 1961 supply will be less than the demand.

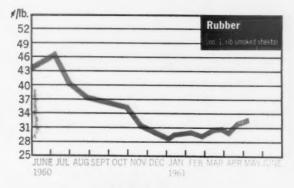
Worldwide supply this year is expected to be no more than 150,000 tons. Earlier estimates of tin production were some 10,000 tons less. Nevertheless, this is still not enough to meet the anticipated requirements of industry in 1961.

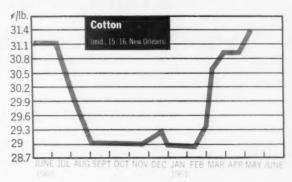
Aluminum: Almost on the heels of the announcement by Kaiser Aluminum & Chemical Co. of three production boosts came a report that Anaconda Aluminum was going back to 100% operation of its 65,000 ton capacity. Aluminum Company of America is still operating at around 77% of its capacity.

According to a recent report by the aluminum and magnesium division of the Business and Defense Services Administration, world capacity for primary aluminum last year was 5.9 million tons.



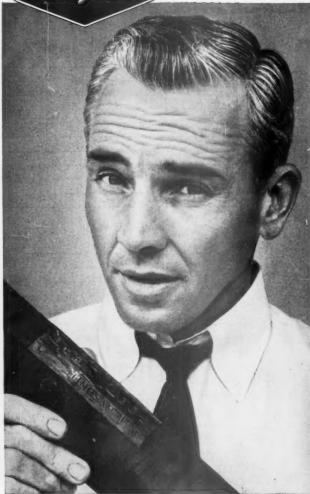






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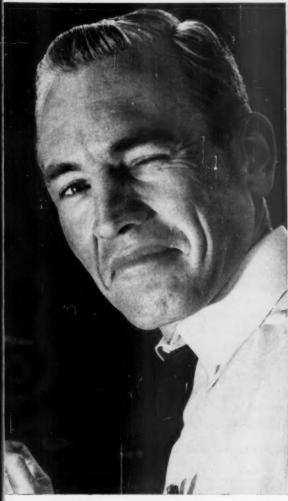


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For the right hose...at the right place...at your Goodyear Distributor...first in service

Lots of good things come from

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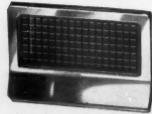
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# Will the Business Recovery Be Booby-Trapped?

A MODERATE rise in production is expected throughout the remainder of the year—and beyond. In addition, some reduction in the unemployment rate is being forecast.

The Kennedy Administration has been giving the economy a second look to properly assess its true condition. It also wants to determine what is needed to further improve conditions.

Usually the recovery cycle is marked by a great deal of confidence, with an outlook of at least several years of prosperous business. Currently there are several major distractions—not the least being the serious threats posed by Castro in Cuba and the Communists in Southeast Asia.

Another problem is the large lump of long-term unemployment. This is not expected to dissolve immediately, even with a substantial improvement in business.

A third problem that tends to cloud the optimism for the future is the impact of automation. Kennedy advisers are anxious to stimulate new plant and equipment spending, and often refer to the high percentage of obsolete tools in use today. At the same time, the Administration is fearful that a major drive toward modernization of industrial plant will cut even deeper into the number of job opportunities.

The Administration sees structural unemployment as a major problem. Economists here are suggesting that the government move on many fronts to absorb workers who have been jobless over a long period of time.

The first approach has been to ease the availability of investment funds in areas of chronic unemployment.

### Cut the Interest Rate

The Small Business Administration has cut to 4% the interest rate on its loans in areas of substantial labor surplus. In addition, there are instructions to SBA lending officials to put more stress on the ability of the lender to pay back the loans than on the security that can be offered.

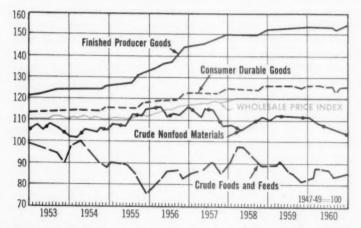
The SBA program began in 1953 when the RFC was discontinued. Since then 22,000 loans have been made totaling over a billion dollars. In the present effort to stimulate commerce, the SBA lending rate has been stepped up to more than 500 loans a month totaling about \$21 million.

Another means of increasing investment in areas of substantial unemployment is the new aid to depressed areas law.

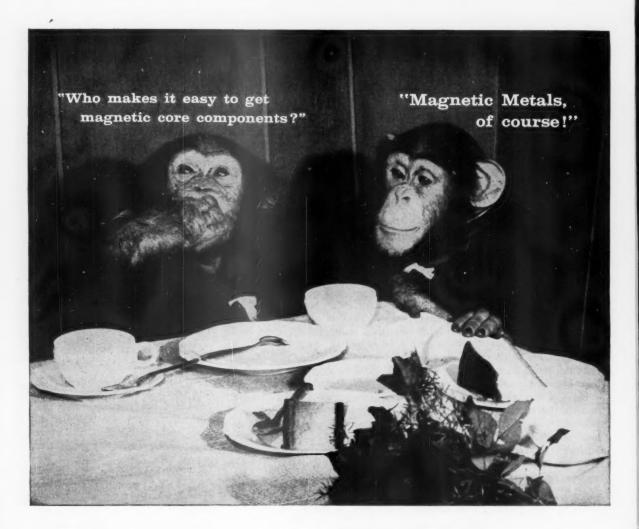
Under the law, loan money totaling \$100 million will be made available to companies which locate plants in cities and towns with a high rate of unemployment. To guard against "pirating," the law bans loans to a company if the proposed plant is transferred from another area—or if it is a new branch and another branch is to be closed down elsewhere.

To qualify for the loan, a company must be unable to get financing from either private or other government sources. It

# Finished Goods Price Index Shows Sharp Rise



While the Wholesale Price Index has shown only a moderate increase since 1953, two components—finished producer goods and consumer durable goods—have advanced sharply. On the other hand, two other components—crude nonfood materials except fuel, and crude foods and feeds—are lower now than they were eight years



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# AGNETIC ETALS

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transformer laminations • motor laminations • tape-wound cores powdered molybdenum permalloy cores • electromagnetic shields must also show reasonable assurance of paying the money back.

A similar lending approach is taken to businesses locating in rural areas, with an additional \$100 million being made available for such loans.

### Favor Long-Range Solution

The new law provides loans of \$100 million and grants of \$75 million to states and their political subdivisions-including local improvement associations-for a wide range of public facilities which would make an area more attractive to industry. Such facilities include new water systems, sewers, and sidewalks.

The loan program is not expected to bring about any sudden reversal of the economic outlook for the more than 100 cities and towns which have been labeled as areas of chronic unemployment. In fact, an additional 100 or more areas will probably be classified as areas of rural dis-

The long-range solution to the problem of structural unemployment generally favored in the Kennedy economic councils is the retraining of workers to provide them with new skills. This is to be accompanied by government vocational guidance and subsidy to give workers more mobility to find work.

President Kennedy and his advisers have held many meetings to decide whether further action to stimulate the economy is required. Among the items they considered were massive federal spending and a temporary cut in the income tax.

A decision was made that these are not needed. The Administration believes that the steps already taken will boost the GNP from a \$499.5 billion annual rate in the first quarter of the year to a rate of \$520 to \$525 billion in the fourth quarter.

There has been widespread criticism that the 1959 recovery cycle was cut short by premature tightening of monetary and credit controls. The present Administration is therefore intent on keeping money available and and relatively cheap.

While there remain such lingering ills as a high level of unemployment and a sluggish rate of recovery, there is a tacit acceptance that the 1960-61 recession is over.

The appraisal by Administration spokesmen is that the recession was overcome by a combination of:

- (1) Increased spending by federal, state, and local governments
- (2) A shift from inventory liquidation to what will become an accumulation rate of \$2 billion to \$3 billion by the end of the year.
- (3) More business spending for new plant and equipment.
- (4) Greater consumer spend-

The largest emphasis is placed on government action as the decisive factor in the recovery.

### Republicans Ask a Question

The Republican view on the economic turn, as expressed by GOP members of the Joint Economic Committee of Congress, is that the turnabout "has been substantially the product of the dynamic enterprise system itself with, up to this point, at least, little direct help from government. The present Administration admittedly has not addressed itself to the problem of recession so much as it has to what it chooses to regard as the problem of long run growth and gap closing."

The Republican legislators raise the question whether greater federal investment in the "public sector" - education, health, housing, research, and resource development-will accelerate the long-term nation's economic growth. Their position is that investment in the public sector might be justified on the grounds of social welfare or possibly improved economic efficiency, but that this would not hasten economic growth.-A. N. Wecksler.



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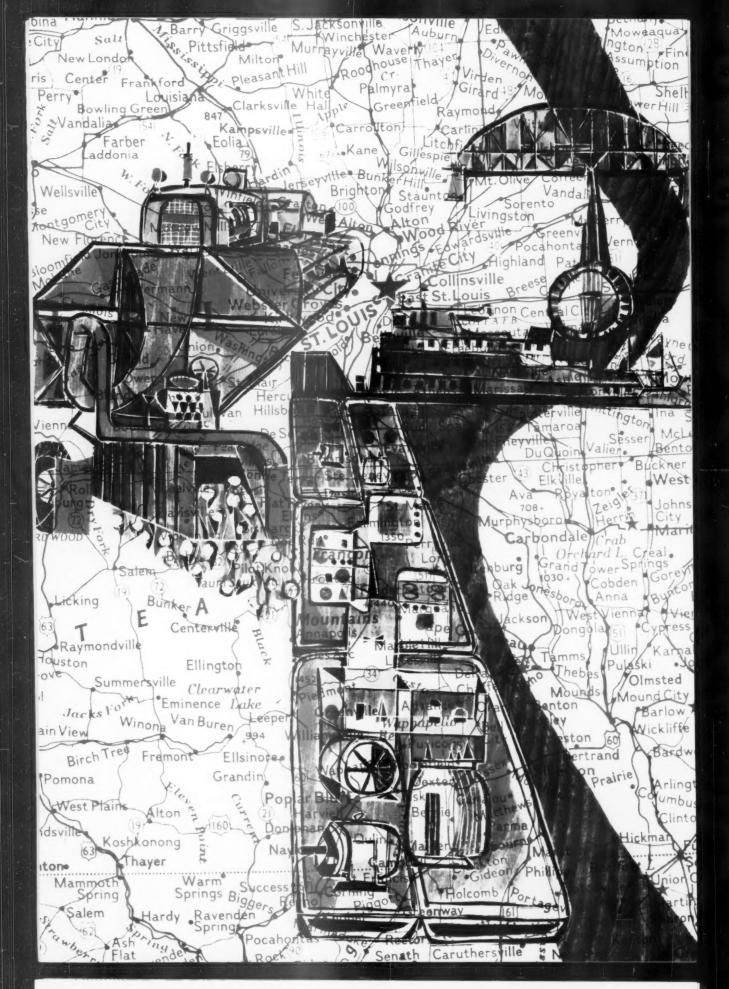


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67 years of service to the Industrial Middle West



# **INLAND STEEL IS HERE**

And here, is where each year the Veiled Prophet comes up from the waters of the Mississippi with his Merry Krewe. Here, too, is the home of the St. Louis Blues and of Joseph Pulitzer and of Mark Twain and of Dr. Beaumont of medical fame. And of Grant's cabin and of Eugene Field beloved of children the wide world over.

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In the cities of this territory, vast areas are constantly uprooted to make way for the new. In St. Louis, itself, the Gateway to the Middlewest,

an exciting project is turning the entire riverfront into a great parkland with a gigantic arch to symbolize a welcome to the world.

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From the Mississippi to the lovely Ozarks, from the wide Missouri to the land of cotton, Inland men are known and welcomed wherever they may go. For over the years, Inland has established a reputation based upon a keen interest in the men and the enterprise of this territory—a reputation built upon good will, dependability, and a genuine desire to be of service.

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One of a series depicting market areas served by Inland . Art by George Suyeoka



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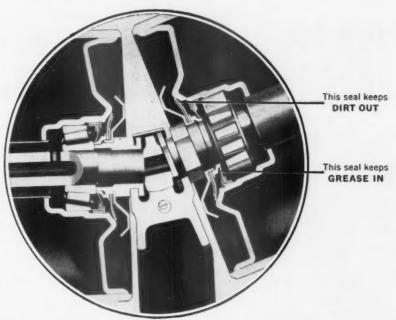


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features improved physicals, closer tolerances, better finish



Arrows indicate approximate center of weld line. After normalizing, cold drawing and annealing, the weld area cannot be detected even when the polished and acid-etched surface is magnified 100 diameters. This perfect microstructure makes Ohio Drawn-Welded, in every sense, weldless — an ideal tubing for critical mechanical and pressure applications. In addition to cold drawing, a severe test in itself, non-destructive tests such as air, water, magnetic and eddy current, insure 100% acceptability.

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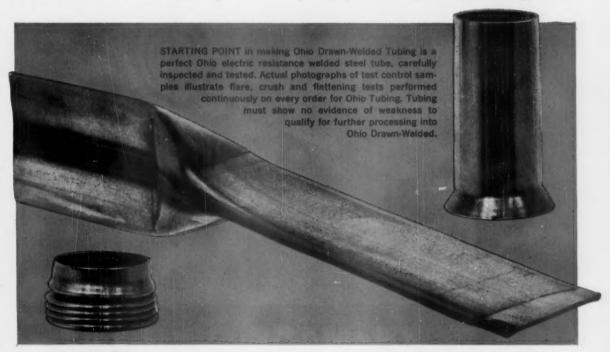
Ohio Seamless is now cold drawing quality electric resistance welded steel tubing up to 7½ inches with wall thicknesses to .344. Ohio Custom Made Drawn-Welded Tubing is here now — in greater range of sizes, wall thicknesses, finishes than ever before.

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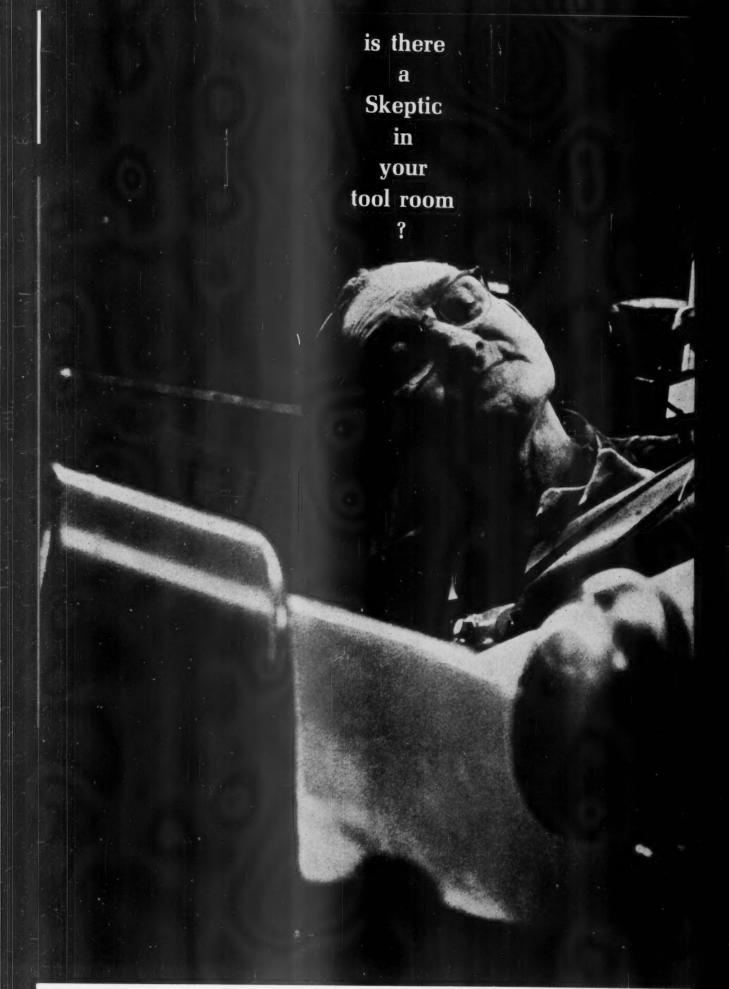
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### Information For Your Catalog Files

### AIR GAGING

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Standard Gage Co.

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### AXLE LATHES

Bulletin 3001-A describes dual-end drive journal truing and axle lathes. The ten-page catalog covers design and operating features, optional equipment, and machine specifications.

Farrel-Birmingham Company, Inc.

Write No. 2 on Information Card-Last Page

### CASTERS AND WHEELS

Catalog CW-61 presents illustrated data on industrial and pneumatic casters and wheels. The 35-page bulletin features the Red-Tred wheel line. Includes sections on special caster accessories and military specifications.

**Saginaw Products Corporation** 

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### LOCK NUTS

A 20-page catalog describing a complete range of lock nuts—including clinch, weld, special, and semi-finished. Gives complete size ranges, materials available, and physical and mechanical requirements.

**Heli-Coil Corporation** 

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#### MOTORS

Bulletin B-2515 shows and describes a line of a.c. motors from one to 2000 hp. The 16-page, four-color bulletin outlines and explains product features of each motor. Includes photographs.

Reliance Electric and Engineering Company Write No. 5 on Information Card—Last Page

### PNEUMATIC PRODUCTS

Catalog No. 1000 covers a line of pneumatic products. The 64-page bulletin describes compressed-air-line filters, pressure regulators, air-line lubricators, valves, and other miscellaneous products. A special section includes a compressed-air flow chart and dimensional data.

C. A. Horgren Co.

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#### POLYETHYLENE

A 65-page booklet describing the properties and uses of polyethylene glycols. Includes information on physical properties, specification limits, test methods, shipping, and handling. Covers the application of the materials in various industries.

**Union Carbide Corporation** 

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#### **POTENTIOMETERS**

A four-page catalog on three-watt, type RV4 composition potentiometers. Graphs are shown of linear, clockwise semilogarithmic, clockwise modified logarithmic, counterclockwise modified linear, and counterclockwise logarithmic tapers. Includes mechanical and electrical specifications, mounting arrangement, and ordering information.

**Reon Resistor Corporation** 

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### **POWER TOOLS**

A 68-page catalog offering information on over 100 power tools. Includes more than 200 illustrations, data on product features, and complete specifications.

Skil Corporation

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### SILICONES

Catalog CDS-129C describes a line of silicones and their uses. The eight-page, two-color bulletin is illustrated with photos and contains data pertaining to the various silicone products, such as fluids, protective coatings, electrical insulation, and rubber

General Electric

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#### SPADE DRILLS

A six-page catalog on inserted-blade spade drills and spade-drill holders. Describes and gives dimensions and prices for three standard spade-drill blades: spade-type, core-type, and the three-lip blade. Also includes special blade styles, coolant connectors, and grinding fixtures.

**Erickson Tool Company** 

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#### SPRINGS

A 16-page manual describing custom-designed and standardized precision springs. Summarizes basic information concerning helical springs, flat springs, wire forms, special fasteners, precision metal stampings, and assembled spring-like devices. Tables list sizes of springs available from stock.

**Associated Spring Corporation** 

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THE AIR SULKY — new portable compressor delivers 1.0 cfm of air at 100 psi.  $\frac{1}{2}$  hp, 115 v motor operates from any handy service outlet.

Johnson's wide line of compressors and accessories provides you with one dependable source of air for nearly all plant applications.

And, you get the extra advantage of proven-quality design and construction, for every Johnson air compressor is built to the same quality standards that have made Johnson pneumatic equipment famous for 76 years. This is your assurance of unquestioned performance and unmatched value.



Write today for new 1961 catalog covering all 45 Johnson air compressors.

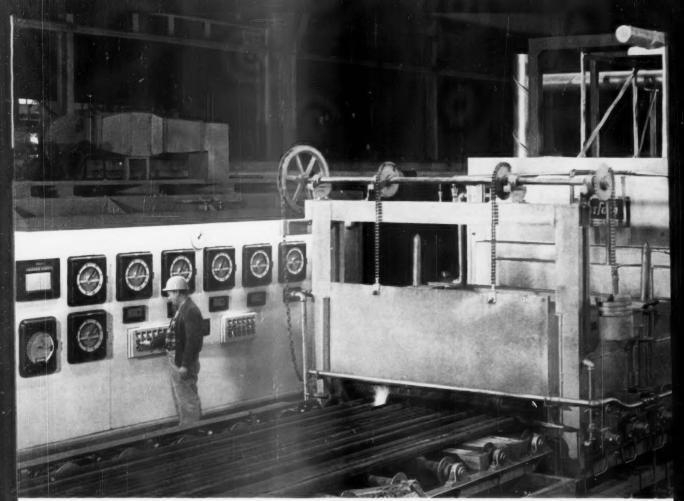
#### JOHNSON COMPRESSORS

JOHNSON SERVICE COMPANY Compressor Division, Dept DQ Milwaukee 1, Wisconsin



For More Facts Write No. 174 on Information Card—Last Page  $M_{AY}\ 22,\ 1961$ 

For More Facts About Ad on Following Page Write in No. 175→



Carbon-restored bars emerge from controlled atmosphere furnace prior to cold drawing.

### J&L announces industry's most modern controlled atmosphere furnace for cold finished bars

This new continuous controlled atmosphere furnace is the latest and most important addition to J&L's wide range of heat-treating facilities for cold finished bars. It makes possible a major increase in production of accurately and uniformly heat-treated cold finished bars — so important to producers of finished parts, who depend upon consistent properties throughout the bar, from bar to bar, and from shipment to shipment. The new furnace provides extremely accurate—yet flexible—control of heating

and cooling. Flexibility is made possible by the division of the furnace into several automatically controlled chambers. Bars can thus be treated to match exactly each user's requirements for strength, hardness, and structure. These characteristics can be reproduced throughout different lots of steel. A principal function of the new furnace is carbon restoration annealing; other thermal treatments include bright annealing, spheroidize annealing, and normalizing.

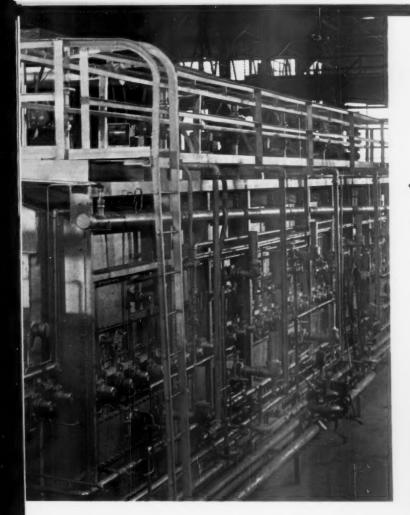


This Steelmark identifies products made of steel. Place this mark on your products. And — look for it when you buy.

**Jones & Laughlin Steel Corporation** 

3 Gateway Center, Pittsburgh 30, Pennsylvania





This new continuous controlled atmosphere furnace gives J&L greatly enlarged capacity for precision heat treatment of cold finished bar stock. Automatic control of furnace atmosphere, heating, and cooling results in a very uniform structure for the annealed bars.

Electreat is an exclusive J&L method of heat-treating cold finished bars by exceptionally accurate control of heating, quenching, and tempering. Individual bars are fed continuously through an induction coil, then quickly cooled and tempered to obtain desired mechanical properties or hardness. Electreat gives a high-strength bar with superior ductility and uniform hardness. Improved notch toughness enables parts to withstand shock loads in service; provides greater strength than conventionally heat-treated carbon steel at lower cost than alloy steel for many products.



New Holland Machine Company saves on drive shaft cost. By selecting J&L's Electreat C-1144 cold finished bars for the feeder drive shaft of a new hay baler, New Holland Machine Company met high standards for strength while saving money on the cost of the part. Electreat's high minimum yield strength (120,000 p.s.i. required in this case) and uniform hardness eliminated the need to use a larger diameter carbon steel shaft or an expensive alloy steel. Due to the high yield strength and uniform quality of Electreat, New Holland reports very satisfactory field performance from their shafts.



# SWITCH EXPERIENCE ...IN DEPTH

You can recommend MICRO SWITCH to your engineering and production men with confidence. As the most complete source for small snap-action and mercury switches, MICRO SWITCH has designed nearly 16,000 different precision switch variations. They undergo tests that duplicate exactly the environment and operating conditions under which they must work in your plant or on your product. Other quality checks safeguard precision and reliability. Whether you're up-dating your present machines or designing new ones, you'll find just the switch you're looking for in the MICRO SWITCH line.

#### Switch help when

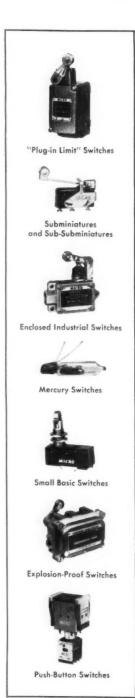
and where you need it!

Call your nearby Branch office. It will save you valuable time in switch selection. MICRO SWITCH field offices in 28 principal cities are staffed with experienced factory trained sales engineers who spend their full time assisting customers on switching problems. These switch specialists can help you.

Largest switch stock available. MICRO SWITCH carries hundreds of different switch types in stock. Hundreds of others are readily available. If neccessary, special switches will be designed to meet your exact requirements.

Local distributors simplify replacement. There's a MICRO SWITCH Distributor close to your plant. He provides regular switch service and can avoid downtime when replacements are needed by shipping from his own stock.

Descriptive catalogs for your file. Complete catalogs, covering the switch categories shown on this page, are available. Write for free copies on the types you buy most regularly.



MICRO SWITCH . . . FREEPORT, ILLINOIS . . . A division of Honeywell In Canada: Honeywell Controls, Limited, Toronto 17, Ontario



For More Facts Write No. 176 on Information Card-Last Page

#### **Catalog Files**

#### **SWITCHES**

Data Sheet 185 covers limit switches with indicating lights. Gives complete technical information, dimension drawings, operating characteristics, and electrical rating.

Minneapolis-Honeywell Regulator Co. Write No. 13 on Information Card—Last Page

#### TUBING

A 28-page brochure containing product information on tubing. Also includes charts and detailed listings of items generally available from stock. A special section covers Drawnover-Mandrel electricweld steel tubing.

Tubular Service Corporation
Write No. 14 on Information Card—Last Page

#### ULTRASONIC CLEANING

Bulletin S-700 covers chemicals for ultrasonic cleaning. The 14-page booklet gives information on physical properties of most commonly used chemicals—as well as suggested applications, working temperatures, and procedures. Technical data includes concentrations and safety handling measures.

Branson Instruments, Inc. Write No. 15 on Information Card—Last Page

#### VALVES

Bulletin V-602 describes two methods for determining flow characteristics of valves. The first section covers the fundamental method of determining pressure drops for all types and sizes. The second section offers a rapid method of estimating the pressure drop through Venturi-type valves.

Rockwell Manufacturing Company Write No. 16 on Information Card—Last Page

#### V-BELTS

Technical catalog 50-C is a multiple V-belt drive engineering and specification guide. The 64-page bulletin presents complete instructions and data for selection of both stock and non-stock drives. More than 400 sheave sizes are listed.

Fort Worth Steel & Machinery Co. Write No. 17 on Information Card—Last Page

### . Announce



## Super

Now the wraps are off! After months of intensive job studies DoALL brings you Super Demon to surpass the performance of anything you have ever known in high-speed steel saw bands. It's another great forward stride by the world's leader in band sawing machines and band tools.

Following laboratory tests, <u>Super</u> Demon has been field tested and enthusiastically endorsed by hundreds of experienced users.

#### Here's what typical users say

"Whenever cost per cut is a factor, Super Demon is the answer."

"For cut-off problem materials, Super Demon surpasses all others."

"We have standardized on Super Demon because it answers all of our cut-off needs."

#### Let Super Demon speak for itself

Now try it on your own work. Judge it on any basis you wish—cutting rate, cost per cut, accuracy, blade life. See how Super Demon can improve your production and cut costs.

Your DoALL Executive Tool Counselor can help you save time and money. Call him today at your local DoALL Sales-Service Store.

#### NEW-**EXCLUSIVE TUFFTRIDE® PROCESS**



Super Demon owes its extra toughness and hardness to a patented process of salt bath heat-treatment, employed exclusively by DoALL. Blades are custom welded to length with DoALL's stronger, guaranteed welds; cutting teeth are perfectly matched and protected by yellow plastic Saw Cap.

See it at ASTME Show, Booth 2222 New York Coliseum - May



For More Facts Write No. 177 on Information Card-Last Page

For More Facts About Ad on Following Page Write in No. 178→



Anode casting wheel. Here, molten copper arrives at 2100°F, and is cooled to less than 1500°F. in equipment at right. Pydraul is used in all hydraulic applications close to open flames or extreme heat. It's noncorrosive and fire resistant. Gulf Harmony lubricates wheel rollers. And a Gulf E.P. Lubricant keeps the reduction gears in excellent condition.

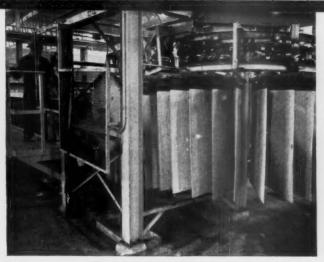
### Protects multi-million-dollar facilities with just six Gulf® lubricants...

The Kennecott Refining Corporation, Ann Arundel County, Maryland, refines blister copper. It has invested over 30 million dollars in highly advanced production, quality control and materials handling equipment. Work force: 600 strong. So that's \$50,000 worth of equipment per man.

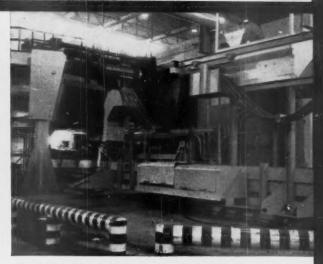
This heavily automated refinery demanded a simple, yet effective lubrication program. To set it up, the Kennecott maintenance staff worked closely with Gulf engineers. The result: a program that requires only a small number of Gulf oils and greases.

For instance, Gulf Harmony® oil is used in hydraulic systems that aren't exposed to extreme heat—assures smooth performance. And Gulf Harmony proves effective in other applications that require an oil with oxidation stability, water separation characteristics and sludge resistance.

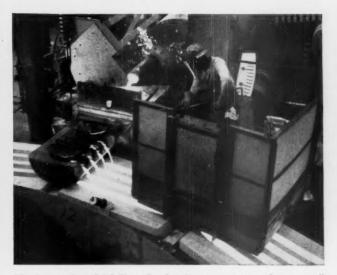
Gulf E.P. Lubricants prevent excessive wear, keep maintenance costs low on equipment that undergoes shock loads and high pressures. Example: reduction gears on anode casting wheel and furnace chargers. A Gulf Sales Engineer reports that "The anode cast-



Stripper conveyer. Pulleys and gears are sprayed with Gulf Harmony 76. It's foamless. It's stable. And it provides effective protection against fumes from the electrolytic cells.



Charging machine. It feeds pre-heated cathodes to the 90-ton, 13,500 KVA electric melting furnace. Gulfcrown Grease E.P. is used in the central lube system of all furnace chargers and the rotary pre-heating furnace. It's oxidation-stabilized and protects against rust.



Wire bar casting wheel. The refined molten copper comes from a small induction furnace off the main arc furnace. Gulf Lubcote lubricates the rim gear, drive pinions and guide rolls. And Gulfcrown Grease lubricates the flexible couplings and mold tipping rollers.



Left to right. F. A. Gaidis, Plant Engineer, H. E. Nelson, Machinist Supervisor, and J. E. Foos, Gulf Sales Engineer. A small number of multi-purpose Gulf oils and greases gives the Kennecott Refining Corporation a simple, yet effective lubrication program.

### against heat, sludge and wear GULF MAKES THINGS RUN BETTER!

ing wheel's entire system was recently cleaned, and all reduction gears were in fine shape. No dirt or rust, or any indication of oil breakdown."

Gulfcrown® Grease E.P. is also specified for equipment that meets high pressures and shock loads. Gulf Lubcote® cushions gear-teeth sliding and rolling action on open gears. Reduces noise and wear. Finally, Kennecott uses Pydraul for hydraulic applications near open flames or high temperatures, and uses Gulfcrown Grease in a variety of conventional grease applications.

May we have the opportunity to work with you in setting up a similar money-saving lubrication program with multi-purpose Gulf lubricants? They'll help you cut maintenance costs and simplify lubri-

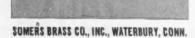
cant application, storage and handling. Call a Gulf Sales Engineer at your nearest Gulf Office. Or write for free pamphlets.

#### GULF OIL CORPORATION Dept. DM. Gulf Building

Dept. DM, Gulf Building Houston 2, Texas



#### FOR REQUIREMENTS FROM .000125 COPPER STAINLESS STEEL **NICKEL SILVER PHOSPHOR BRONZE** BERYLLIUM COPPER HI-TEMPERATURE METALS Tin Coated Metals and Rare Metals and from .020" to .000125" thin in NICKEL MONEL INCONEL INCONEL X GLASS SEALING ALLOY is your number source for reliability, delivery, and technical assistance. Write for confidential analysis of your specific requirements - no obligation. of course



Phone (Area Code - 283) Plaza 8-8321 TWX-WBY77
For More Facts Write No. 179
on Information Card—Last Page

#### Letters To The Editor

#### SOME QUICK QUOTES

Dear Sir:

We always enjoy the cartoons in Purchasing Magazine.

Herman Lazerson Solar Light Mfg. Co. Chicago, Illinois

Dear Sir:

I was greatly impressed by John Van de Water's article, "Tomorrow's Purchasing—Today," which appeared in the February 27 issue.

> J. E. Packard C. R. Bard, Inc. Summit, New Jersey

Dear Sir:

Thank you for giving me the opportunity to list my qualifications in the "Employment Service" page of Purchasing Magazine.

Also, I would like to tell you what a fine magazine you publish. In our firm, we get many magazines in the department but none cover purchasing problems and give helpful information as you do.

Name Withheld

#### PLEASANT READING

Dear Sir:

I would like to express my satisfaction with the quality of your articles, as well as their subject matter, during the past year. Your coverage with detailed accounts of the many factors which surround and influence purchasing should reap its rewards not only for you for a job well done, but also for the profitable effects and results to be gotten by those who read these articles carefully.

In the February 13 issue, I was particularly impressed with Tom Dillon's article "Can You Analyze Transportation Values" and the series of legal questions and answers under the title "What You Should Know About F. O. B."

The first article should be carefully read and acted on by buyers and sellers alike. It has been a source of dissatisfaction for me to find suppliers with very poor notions of traffic and distribution, although their sales personnel were

considered well qualified. All too often, many sales offices think their job is over once the order is entered and acknowledged. Yet orders are lost and won long after the sales department has made its pitch pay.

It all comes to the same answer in the end: if sales and traffic, or purchasing and traffic do not work as teams, they are hurting

themselves badly.

The fine article in Purchasing Magazine points up the necessity of this teamwork, and no matter how you look at it, it will pay if you have it, and it won't, if you don't have it.

Now, may I temper the orchid with a tiny scallion. Suppose I wanted to get in touch with Hector Wright, The E. B. Eddy Co. (Purchasing Pointers, first paragraph, same issue), how would I do it? Thank you and keep up the good work.

J. S. Durato Metropolitan Brick, Inc. Canton, Ohio

• Mr. Wright can be reached at The E. B. Eddy Co., Bridge St., Hull, Quebec, Canada.

#### DO YOU HAVE ....

Dear Sir:

I would certainly appreciate your help. This is my problem: a local construction firm is installing a plant that was manufactured in Germany. All bolts and nuts are in metric measure.

Every effort has been made to find an American manufacturer who can furnish the necessary tools. The prices are exorbitant and deliveries are extended.

Can you furnish me with names of importers who stock, in the United States, wrenches, hand tools, taps, and dies of metric measure?

J. P. Holland Tri-State Mill Supply Co. Crossett, Arkansas

 We are unable to be of help to Mr. Holland other than to suggest the local office of the Department of Commerce.

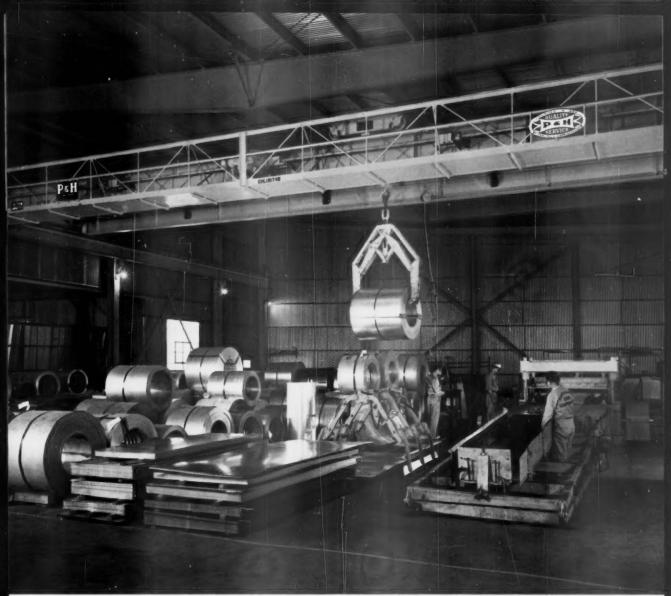


Photo courtesy Maas-Hansen Steel Co., Los Angeles, California

#### FOR EVERY APPLICATION, THERE'S ONE CRANE OUTSTANDING ... P&H!

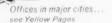
This low-cost, 10-ton floor-controlled P&H overhead crane is a production tool tailored to meet the multiple handling needs of this steel service center. Equipped with interchangeable coil and sheet steel grabs, as well as a hook scale, it warehouses the steel, services the shear, and loads shipments in a manner impossible to match with surface-bound equipment. Aisleways are reduced to an absolute mini-

mum; valuable floor space is made to pay for itself.

Before you draw up your next crane specification, get the help of your local P&H man. He's backed by the largest group of engineers in the crane industry . . . and 76 years of experience in crane building. Then send your next crane inquiry where most smart buyers do - to Harnischfeger, world's largest

#### HARNISCHFEGER







#### **Purchasing People In The News**

Appointment of Robert G. Rhett as general purchasing agent of Kennecott Copper Corporation, New York, N. Y. has been an-



Robert G. Rhett

nounced. He will succeed L. W. Shelton who has retired after 34 years with the company. Mr. Rhett, a Yale graduate, joined the company in 1960.

Henry H. Finch has been named director of purchases for General Mills, Minneapolis, Minn. Mr. Finch replaces C. V. Nelson, who has retired after 47 years with the company—18 as purchasing director. Mr. Finch, who began



Henry H. Finch

work for the company in 1937, served as an accountant at Tacoma, Wash., before becoming chief accountant for the concern's western operations in 1946. He became a P.A. in 1953, and since 1960,

has served as assistant to the director of purchases in Minneapolis. He received B.A. and M.B.A. degrees from Brigham Young and Stanford universities respectively, and is certified by the state of Washington as a public accountant.

John Raetzman has been made vice president in charge of purchasing of the Flexible Steel Lacing Co., Chicago, Ill. He has been associated with the company for over 39 years and served formerly as both P. A. and production manager.

Hoover Ball and Bearing Company, Ann Arbor, Mich., has named Robert B. Parker director of materials. He succeeds James



Robert B. Parker

Veras, who has been assigned responsibilities at another Hoover Division. Mr. Parker was most recently production control manager of the company. He was previously with General Foods Corporation.

Dan C. Kyker has been appointed manager of materials for the General Electric Company's Outdoor Lighting Department, Hendersville, N. C. In the newly created post Mr. Kyker will be responsible for the department's purchasing, shipping, and receiv-

ing activities. For the past eight years, he has been a sales representative of the GE electric utility sales operation in Atlanta, Ga. Mr. Kyker has an electrical engineering degree from Georgia Tech.

Vincent W. Stehlin, has been named purchasing agent for The R. K. LeBlond Machine Tool Company, Cincinnati, Ohio. Mr. Stehlin succeeds William McKinley Reis, who is retiring after 44 years with the company. Mr. Steh-



Vincent W. Stehlin

lin has been assistant purchasing agent for the company since 1959. Prior to that time, he was purchasing agent and assistant general manager of The Fosdick Machine Tool Company. He is a graduate of Xavier University and Salmon P. Chase College of Law. He is a member of the Cincinnati Purchasing Agents Association.

Edward T. Ramsey has been named supervisor of purchasing for the Moundsville, W. Va. plant of Allied Chemical's National Aniline Division. Mr. Ramsey will be responsible for all purchasing and mechanical stores at the plant. He has had long experience in the purchasing and inventory control fields. He was recently associated with Kaiser Aluminum and Chemical Division in Halethorpe, Md.



It's not an ordinary paper that traps destructive sludge in oil, tiny motes of dust in air, corrosive droplets of moisture in gases . . . these marauders are now stopped in their tracks by "highly educated" Riegel filter papers. Other familiar examples are vacuum cleaner bags, oil filters in your car, hydraulic filters in jet engines and gas aerosol filters to trap atomic fallout. Riegel filter papers are made to highly technical specifications for each job.

Think a moment... can a filter improve your machines or processes... or solve a problem... at the cost of paper? Riegel has over 600 papers to serve industry in <u>products</u>, in <u>production</u>, in <u>packaging</u>. Write Riegel today describing your need.

TECHNICAL ADVISORY SERVICE RIEGEL PAPER CORPORATION BOX 250, NEW YORK 16, N. Y.

For More Facts Write No. 181 on Information Card—Last Page

#### FOB-"filosofy of buying".

Clair (Fanner Mfg. Co.) came up with some humorous definitions of different types of buyers at a recent meeting of the Pittsburgh Association. Maybe you've seen them before, but we pass them along anyway:

THE MUSICAL BUYER—"I'll make a note of it."

THE ROMANTIC BUYER—"I'd love to buy your product."

THE BLANKET BUYER—
"Cover me completely."

THE BARBER BUYER—"Just shave the price a little."

As LONG As they've revived "Ladies' Night in a Turkish Bath" on the New York stage, we thought we'd let you have a peek at the hi-jinks that went on among staid old purchasing men in staid old Boston 'way back in 1923. The report is taken from our January 1, 1924 issue:

"The Christmas Meeting and Frolic of the New England Purchasing Agents Association was held in Horticultural Hall on December 10th. There were 400 present by actual count, but the volume of noise at the gathering might well have issued from 4000 throats. The event was summarized by a reporter for the Boston Transcript as follows:

"'Into the barrage of noise that announced the opening of the festivities was submerged the year's accumulated stock of business worries, and for four hours the purchasing agents ate together a sumptuous meal, sang together in harmonious discord the popular songs of the day, and watched a vaudeville performance of thirteen numbers with about 23 encores.'"

In ITS ZEAL to promote the public interest, the law can do some strange things. Andy Lehrbaummer, city purchasing agent for Milwaukee, tells the peculiar story of the police auctioneer in his latest annual report.

Sam Ansfield had been the suc-



"Here's your target price on those bearings . . ."

cessful bidder among several licensed auctioneers for the job of
auctioning off items accumulated
by the police department. He had
taken great pride in his assignment and many of the local children practically worshipped him
for the breaks he gave them during the auctions he conducted for
many years. More than once he
would watch some poor kid with
only a dime in his pocket keep
trying to buy something, then
suddenly sell the kid a bicycle on
his opening bid of 10¢.

Sam died last year, and when bids were requested for the service one of the local auctioneers offered to take over the work and do it for nothing. Then the law in all its majestic foolishness stepped in. An offer to perform some service without charge is not a bid and cannot be accepted, the city attorney ruled. So purchasing had to select the next low bidder, whose fee is four percent of receipts.

Next time you set out to rescue someone from a burning building, maybe you ought to get a ruling first that you should be paid a fireman's salary in advance.

CITY PURCHASING AGENT John Krieg's annual report to the officials and citizens of Cincinnati has been mentioned here several times. But each year John comes up with a few new tidbits that just cry out for quotation, e.g.:

"This year again we are pleased to acknowledge the complete support of the City Manager, the salutary cooperation of other city departments, the optimum confidence of our bidders, the altruistic assistance of our professional colleagues in the National Institute of Governmental Purchasing and the Cincinnati Association of Purchasing Agents, and finally, the dedication of our staff."

Among the department's unusual purchases during the year: a submersible drag for recovery of bodies (human) from bodies of water, boodle buggies, movable plastic eyes, Christmas trees, Indian hair roaches, trampolines, 25 lbs. of Mynah bird feed, a kennel for two police dogs.

# If you're headed for a product requiring magnets ...consider *(eramagnet*)



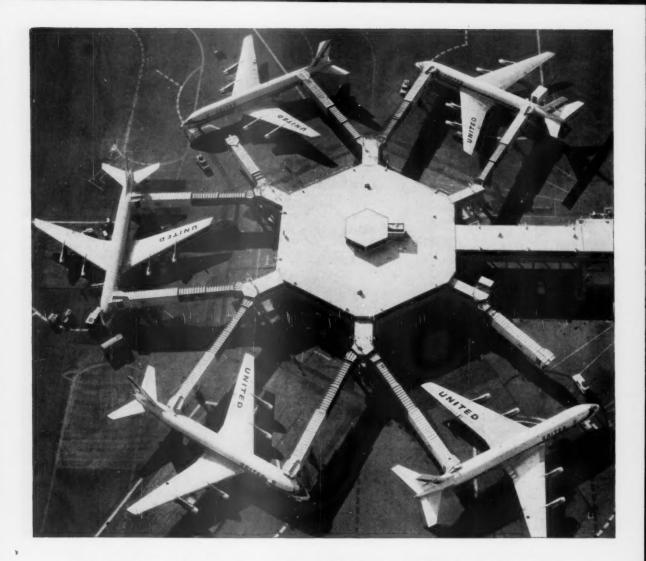
The road leading to a new product may be filled with detours where conventional magnets are concerned. That's where Stackpole Ceramagnet permanent magnets warrant prompt and serious consideration. By providing important characteristics, to extents unobtainable in metallic units, they pave the way to many new and unusual design and engineering approaches.

Ceramagnet's high coercive force permits use without keepers or pole pieces, with many poles on a single flat face, and under other conditions which would quickly demagnetize ordinary units. Moreover, Ceramagnet is chemically inert, electrically nonconductive. Molded from ceramic powders, Ceramagnet permanent magnets can readily be produced economically to practically any size or shape.

For ideas and technical data, write for Ceramagnet Bulletin, Stackpole Carbon Company, St. Marys, Pa.



GRAPHITE BEARINGS & SEAL RINGS . ELECTRICAL CONTACTS . ROCKET NOZZLES . VOLTAGE REGULATOR DISCS . PUMP VANES . CHEMICAL ANODES . CERAMIC MAGNETS . WELDING & BRAZING TIPS . FERRITE CORES . FIXED & VARIABLE COMPOSITION RESISTORS . SLIDE & SNAP SWITCHES . AND MANY OTHER CARBON, GRAPHITE AND ELECTRONIC PRODUCTS



### ON UNITED AIR LINES...THE WORLD'S LARGEST JET FLEET... FOR FASTER, MORE FREQUENT AIR FREIGHT SERVICE

At the rate of once every fifteen minutes, every day, a United Air Lines Jet Mainliner® takes off. And every flight carries freight—up to 14,000 pounds. United serves more U.S. cities by jet than any other airline... gives you the convenience of frequent service plus the speed needed for same-day delivery.

But the fact that United Air Lines operates the world's largest jet fleet is only part of the United Air Freight story. These jets are backed by a fleet of Mainliners and fast, all-freight Cargoliners scheduled to fit your needs. This total freight lift gives you a wide choice of flights night and day, to major cities throughout the nation.

Add United's unique Extra Care in handling and expediting and you have the best, surest way to ship. Call your freight forwarder, or any United Air Lines sales office, for your next shipment.

WORLD'S LARGEST JET FLEET



KNOWN FOR EXTRA CARE

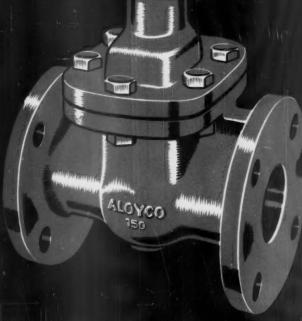
For More Facts Write No. 183 on Information Card-Last Page

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For More Facts About Ad on Facing Page Write in No. 184->

we make stainless steel

... nothing else



ALOYCO 111 Gate Valve for 150 lb. service features double disc ball and socket wedges. They are free to rotate and are non-fouling in any position which insures tight closure. There are Aloyco valves and alloys designed for every type of corrosive service.

SPECIALIZATION! Isn't it reasonable to believe that the one company with experience, facilities, research and service all devoted to a single product is your best source of supply? The modern Aloyco foundry, for example, is designed to produce one end product only: pressure-tight Stainless Steel Valve castings of the finest quality.

ALLOY STEEL PRODUCTS COMPANY

LINDEN, NEW JERSEY





#### at Sun Life Assurance Company of Canada

(Toronto, Ont.)...



Why take less . . . when CORDLEY offers more:

More Cooler Experience. Water Coolers are Cordley's only business, not a side line.

More Assurance of Satisfaction. Cordley's full 5-year guaranty is by far the strongest in the industry.

More Help in choosing the right coolers for your use...from Cordley's line of 28 job-rated models.

#### The New CORDWALL LINE



No plumbing shows. Flush to the wall. No dirt can get behind. 3 wall models for installation at any height. 5 floor models. See Yellow Pages for nearest Cordley Distributor. Ask for Catalog 61.

#### **CORDLEY & HAYES**

Specialists in water cooling since 1889 443 Park Avenue South, New York 16, N.Y. For More Facts Write No. 185 on Information Card—Last Page

### **Calendar of Coming Events**

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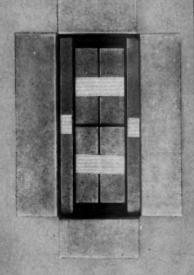
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- May 21-24. Industrial Heating Equipment Association: Annual Spring Meeting, The Homestead, Hot Springs, Va.
- May 22-25. Design Engineers Show, Cobo Hall, Detroit, Mich.
- May 22-26. American Society of Tool and Manufacturing Engineers: Conference & Exhibit, Coliseum, New York, N. Y.
- May 24-25. American Iron and Steel Institute: Annual Meeting, Waldorf-Astoria Hotel, New York, N. Y.
- May 24-26. Electronic Industries Association: 37th Annual Convention, Pick-Congress, Chicago, Ill.
- May 25-26. National Society of Business Budgeting: Statler Hilton Hotel, Dallas, Tex.
- May 29-30. Canadian Purchasing Agents Association:
  36th Purchasing Conference and Products Display,
  Royal York Hotel, Toronto,
  Canada.
- June 4-7. National Association of Purchasing Agents: Annual Convention, Conrad Hilton Hotel, Chicago, Ill.
- June 5-9. Society of the Plastics Industry: 9th National Plastics Exposition, Coli-

- seum and Commodore Ilotel, New York, N.Y.
- June 8-9. National Electrical Manufacturers Association: Western Conference, Biltmore Hotel, Los Angeles, Calif.
- June 11-15. American Society of Mechanical Engineers: Summer Annual Meeting, Statler-Hilton Hotel, Los Angeles, Calif.
- June 14-17. Drop Forging Association: Annual Meeting, Greenbrier, White Sulphur Springs, W. Va.
- June 16-19. National Association of Metal Finishers: Annual Convention, Statler Hilton Hotel, Boston, Mass.
- June 28-30. National Machine Accountants Association: Royal York Hotel, Toronto, Canada.
- July 18-20. Western Plant Maintenance and Engineering Show: Pan Pacific Auditorium, Los Angeles, Calif.
- July 25-Aug. 10. Chicago International Trade Fair, Mc-Cormick Place Exposition Center, Chicago, Ill.
- July 30-Aug. 2. Institute of Surplus Dealers: 16th Trade Show, New York Trade Show Building. New York, N.Y.

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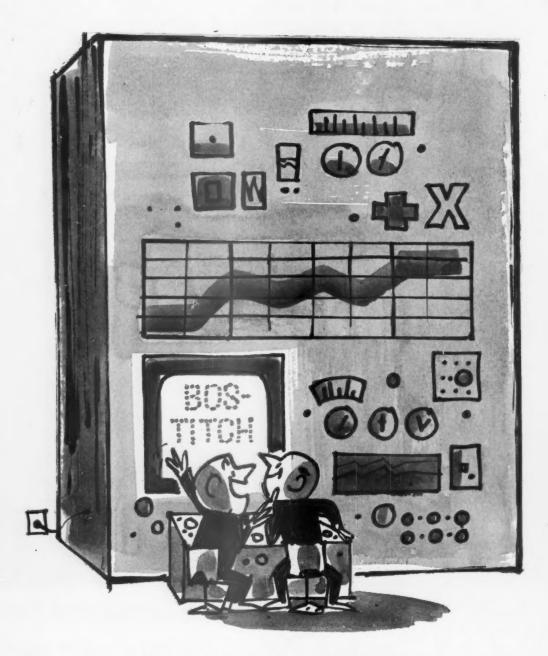
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IS THE V.A. PAYOFF REALLY 10 to 1?—Value analysis enthusiasts are fond of saying the technique will save you \$10 for every dollar you put into it. If you doubt it, why not take up the challenge of some of the value analysis consulting firms. They're willing to come into your company, survey your operation, and give you almost a guarantee on how much they can save with a regular V.A. program. Their survey fees are low, and in some cases the service is free.

THE REVERSE PLANT VISIT—Change places once in a while and invite suppliers in to visit your plant. It will give you a chance to show them where and how their products are used, and let your plant people air some of their complaints or ideas. A lot of salesmen need—and may appreciate—this kind of education. And when you run up against a production problem with a supplier's product, always try to get him into the plant to show him what went wrong.

MOVE PAPERWORK FASTER—When it comes time to move into new or redesigned offices, try to arrange for counters, small windows, or cutouts in walls or partitions between units. This permits forms, reports, correspondence, etc. to be passed quickly. Paperwork will flow more rapidly and smoothly and a lot of useless movement and "visiting" by people walking from office to office will be eliminated.

BEST IN PURCHASING PUBLIC RELATIONS—One of the best purchasing public relations efforts now in print is the newest supplier's guide issued by the Ford Motor Company, The American Road, Dearborn, Mich. Fourteen sections deal with key purchasing policies and methods: e.g., how suppliers are selected, basic objectives and policies, how procurement works at Ford, how commitments are made, etc. There isn't any kind of purchasing department, large or small, that wouldn't get at least a few ideas from the booklet.

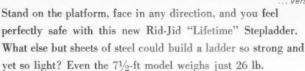
# What else but sheet steel could build this new safety stepladder?







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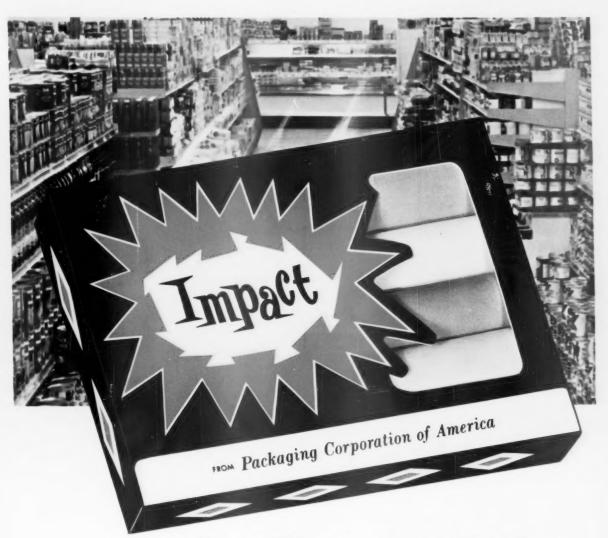
Made by The J. R. Clark Company, Spring Park, Minnesota, the ingenious Rid-Jid "Lifetime" ladder was designed almost entirely of sheet steel for the last word in safety, comfort, and convenience. Its special finish provides all-weather durability; rubber "shoes" give it sure footing even on slippery floors. Like other products in the Rid-Jid line, this ladder has the quality and the muscle that only sheets of *steel* can give.

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### Don't Learn Too Late

HAROLD BERRY, chairman of the National Association of Purchasing Agents' Committee for Professional Development, has stated the problem very clearly and simply:

"We cannot depend forever only on good luck and the application of common sense to make up for an educational deficit. We need more than that to meet the emergencies that will face us."

He was speaking on behalf of the specific educational program his committee has recommended to the association membership. It is a program so logical and so necessary that it is hard to see how any reasonable man can oppose it.

Yet, as Mr. Berry readily admits, the program is only a start. It is one part of a great effort that is needed at every levelwithin purchasing departments, in colleges and universities, and in outside training organizations. Despite the fine work of N.A.P.A. and many others purchasing training and education have not kept pace with the new responsibilities that are being thrust upon the materials function.

Some idea of the enormity of the educational job that purchasing executives face can be had from a recent statement by Dr. Thomas Stelson of the Carnegie Institute of Technology. Speaking of engineers, Dr. Stelson said that graduates of ten years ago could not compete in value with recent graduates unless they spent 10% of their time keeping up with new developments in their fields. He estimated that decay from neglect or disuse is also 10% a year, with the result that "an engineer is faced with the task of growing in new knowledge at the rate of about 20% per year to remain of equal value to his employer and society."

An advancing technology obviously makes greater educational demands on engineers than it does on purchasing executives. It may be stretching things to say that a purchasing agent should grow in knowledge at the rate of 20% a year. But in the face of its claims to be a part of modern industrial management can purchasing set its growth figure much lower? If its responsibilities include staying informed on new technical developments, automation, and advanced buying techniques, can it afford not to spend time-and a lot of it-on self-improvement?

Fortunately, a new awareness of the need for more and better purchasing training appears to be taking hold, as the articles in our special section (see page 67) indicate. Perhaps the combination of these new approaches and the proposed N.A.P.A. program will bring purchasing education and training up to where it belongs, alongside an expanding, improving technology. It

would be fatal to settle for anything less.

PURCHASING MAGAZINE May 22, 1961

auf V. Farrell



# Value Analysis Saves Air Force Over \$500 Million

An all-out value analysis drive by contractors is helping the Air Force get more zoom per dollar.

By A. N. Wecksler,

Washington Editor

MPROVED PURCHASING techniques have been a vital part of the Air Force's cost reduction program. To get a more accurate accounting of what savings are being made, Lt. Gen. M. E. Bradley, Deputy Chief of Staff, Materiel, requested 70 Air Force contractors to report on their cost reduction programs.

Identifiable cost reductions of \$570,000,000 were listed by 28 of the contractors. Fifteen contractors reported that through improved purchasing techniques,

they had saved 26,759,964, and five of the contractors said they saved \$28,567,999 through value engineering. One company reported savings of \$3,273,000 from inventory reduction.

Contractors responding to General Bradley's request for data stressed purchasing's role in cost reduction. Example: the Electronic and Ordnance Division of AVCO Corporation reported that "the areas of greatest contribution have come from purchasing, where the major success has been

achieved by seeking new sources of material and through price negotiation."

The Lycoming Division of AVCO spells out purchasing's cost reduction efforts this way:

"Basically we strive for healthy competition in our purchases. Overall we believe this is the most successful way to establish fair and reasonable prices. However, we do not believe that the selection of the lowest bidder is necessarily an indication that the price is fair and reasonable. In general,

fair and reasonable prices can be established competitively by selecting the right sources, and by requesting a sufficient number of bids relative to the complexity of the work and the dollar value involved.

"Because of the importance of selecting the right vendors, we have established a definitive source selection program. Potential suppliers are surveyed by personnel from purchasing, engineering, manufacturing and quality control. If the supplier is approved, he is classified by industry and the type of work he is best qualified to perform. As a further check, vendors are periodically rated on their performance with respect to quality, price, delivery, and service. Suppliers who fail to meet our standards after they have had sufficient time to improve are removed from the list of approved suppliers. Vendors who do an outstanding job are commended.

#### **Buyers Learn From Each Other**

"Another important factor in getting fair and reasonable prices is to have buyers who understand dollar value. In every case, we try to pick buyers who have engineering, toolmaking, or machine shop experience. We also go after college graduates with business or accounting backgrounds. By having buyers with different backgrounds, we feel that each one can learn from the others."

Another company that has had considerable success with cost reduction is Douglas Aircraft which is stressing better control of materials as a way to reduce inventories. Douglas concentrates its controls on the high dollar value items. In raw materials this is accomplished by scheduling requirements from an inventory position within the scope of the master schedule, rather than application of the master schedule, regardless of inventory position. In the purchased parts and supplies inventories, the reorder formula has been revised to provide a 30- to 60-day inventory, rather than a 60- to 90-day inventory. Inventories at all five Douglas facilities were reduced by 10% in the period December 1959 to July 1960.

While this was due in part to a business slowdown, better controls have definitely played a part in stepping up inventory turnover.

Douglas describes cost-saving steps planned for the future as:

(1) A long-range plan to modernize machine equipment is expected to save over \$1.6 million in the first year.

(2) A computer consolidation plan. By the end of 1962 this program will reduce computer costs an estimated \$4 million per year, while providing a 45% increase in computer capacity over that available in June of 1960. These gains will be made possible by using a newly available solid state computer. Two of these computers will ultimately supplant 15 conventional computers.

(3) A study group has been established to standardize all pa-

(4) Small tools activities will be consolidated in the West Coast divisions in another standardization move. This will eliminate duplication and make it possible to use currently inactive stocks. The program is expected to cut costs over \$1 million in the next few years.

(5) Douglas is also considering consolidating certain tooling activities to eliminate duplicate costs.

The company feels that many of its cost reductions are not the result of new ideas, but stem



". . . and when our system doesn't work it picks out the cheapest place for the missile to crash."

rather from increased emphasis on known methods. The Material Division has inaugurated savings programs in several areas, particularly purchasing. Emphasis has been placed on five cost reduction techniques which are expected to save \$1.9 million in the first year:

— Purchasing agreement contracts. This involves purchasing products on a multi-plant basis which makes it possible to set more competitive prices.

— Value analysis. This category includes those situations in which material recommends that engineering change a part design to lower costs.

— Request for cost review and price reduction. Based on the continuing activity of a given item, or a new sole source item of a larger dollar value, the buyer will request a cost breakdown from the vendor. This is extremely useful information in price negotiation.

— Audit reviews. To be used with the larger fixed-price transactions that are repetitive. In these instances purchasing gets an audit of prior cost history so that it is in a better position to negotiate.

— Source development. Purpose is to ease procurement of articles from restricted or sole sources. Material, in coordination with engineering, process, and quality control, will try to introduce another source or sources, thereby stimulating competition.

General Electric Defense Field Operations Department in its cost reduction report listed improved purchasing procedures as contributing substantially to the savings program. Included in the purchasing effort:

A vigorous and realistic "make or buy" review; broadened base of subcontractor competition; participation in the U.S./Canada Production Sharing Program; subcontractor source evaluation; greater reliance on small business subcontractors; use of quantity discounts; review of vendor claims; improved negotiation; value analysis, and use of automation in

#### McNamara Gives Value Analysis a Push



Defense Secretary Robert S. Mc-Namara: A premium for good performance.

Defense Secretary Robert S. McNamara recently announced the possibility that a new type of procurement plan might be worked out which would pay a premium to defense contractors if they turn in an especially good performance. There have been arrangements like this in the past but on a very limited basis. Obviously, if an incentive program such as this goes through, it will further stimulate the value analysis efforts being made by defense contractors.

McNamara is also seeking ways to shorten the development time required on most defense contracts and is trying to work out a program that will make it certain that small business gets a larger share of defense contracts. His goal is to increase the amount of defense money going to small business 10% above the \$3.4 billion it received in 1960.

purchasing.

Examples of savings effected by GE on weapon systems were cited as follows:

The unit cost of the General Electric J79-5 engine (four are used to power the B-58 bomber) has been reduced to \$179,800 (1960) from \$314,900 (1957). Unit cost in 1961 is projected at \$157,500—a 50% reduction. Similar cost reductions have been effected in the J79-7 which powers the F-104 fighter. On the J79-8, two of which power the A3J and the speed-record setting F4H, GE is now beating the originally established cost objectives.

A cost reduction program undertaken in September, 1959, on the GE T58 turbo-shaft power-plant resulted in a reduction in shop cost from \$65,000 to \$51,500, while achieving an increase in power from 1050 horsepower to 1250 horsepower.

#### Cost Down 69% in a Year

Cost of the main fuel control for the GAM-72 Quail has been reduced 69% in the last 12 months.

Total saving of \$1.2 million was accomplished through the design of a single trailer for transport of ICBM/IRBM reentry vehicles and for their assembly to boosters, replacing two specialized vehicles previously employed.

General Electric's "F-105 Minus

30%" program resulted in savings totaling \$3 million on GE-furnished armament and flight control equipment for the F-105 fighter-bomber.

Total savings of \$450,000 on a quantity of 34 AN/FPS-7 radar antennas designed and manufactured by GE, resulted from a value analysis program and from improvements in manufacturing and purchasing.

Savings of \$800,000 to \$1 million are anticipated as a result of GE's sending letters of intent to suppliers of electronic equipment for the Skybolt program. Quantities stipulated in the letters of intent cover 12-month requirements.

AC Spark Plug Division of General Motors summarized its costsaving efforts in procurement as follows:

"Procured materials in a major program in the defense industry today may run 50% or more of the total program costs. We therefore place great emphasis in using proven techniques aimed at rigid control of subcontractor costs, quality, and reliability. Among the techniques we are using:

"A make and buy committee to determine whether it's better to buy specific parts, assemblies, and sub-assemblies or to make them ourselves. The committee reviews the make and buy structure of a given program throughout the life of the program.

"Vendor and subcontractor control is rigidly enforced by a more thorough analysis of subcontract proposals, greater use of competitive bidding, and more extensive analysis of government cost and audit and certification of current pricing data. The financial stability, ability to produce, and past performance are thoroughly investigated by a facility review team composed of AC Spark Plug Division personnel from production, manufacturing, engineering, and accounting before the vendor gets the order or subcontract.

"Purchased material costs which include raw materials, purchased parts, components, and end-items are carefully scrutinized throughout the performance of a subcontract by our Cost Control Department."

Goodyear Aircraft Corporation reports constant use of price analysis and a major effort to reduce costs through an organized value analysis program.

In the future, Goodyear plans "intensified scrutiny" and cost analysis of vendors' pricing structure, costs, overhead rates, and profit. There will also be closer surveillance of vendors and subcontractors to prevent costly schedule snarls and to improve communications.

(Please turn to page 134)

SURE, WE'LL take that motor back, but of course there'll be

a restocking charge."

For most buyers this phrase has a very familiar and a very irritating ring. To make matters worse, the problem of restocking charges is becoming more of a nuisance, not less. For many years, the standard charge made by suppliers for accepting return of items that had been ordered was 10% of the value of the item. Now, along with the price of everything else, restocking charges are going up. Recently there was even talk of an exorbitant 50% service charge.

In most return goods policies, a restocking charge is made when a customer wishes to return something for any reason other than defective workmanship or manufacture. The problem usually comes up because the buyer made a mistake, sent faulty specifications, had typographical errors on his purchase order, etc. In other words, most returns are made because of a purchasing error.

#### **Buyer Also Needs Protection**

How are restocking charges determined? Most vendors will tell you they are based on the costs involved in receiving the returned item, unpacking, refinishing and placing the item in inventory. On top of this are freight charges.

Not surprisingly, suppliers' return goods policies never mention anything about reimbursing the buyer for any costs involved when an item has to be returned because of an error made by a vendor. It seems only fair that this should be covered in the sales agreement. Perhaps there should be an "inconvenience charge" or "vendor error rebate." If the restocking charge is logical and fair, then so is the idea of an inconvenience charge. If all buyers would insist on this type of adjustment, it might at least cause the vendors to review their own excessive restocking charges.

Of course, the most desirable solution for both vendor and buyer would be to eliminate all charges connected with a return. A clause in the sales agreement to cover any problems that might develop could be written along these lines:

# What About Restocking Charges?

By William H. Whetstone,

Traffic Manager, University of Illinois, Business Office, Purchasing Div.

"When it is necessary for you to return something we have sold to you—we know that you, like ourselves, want the matter handled as quickly and as simply as possible. In order to do this, please identify the return with your order number and list any of our numbers which you may have. Please keep in mind that the returned item is being placed in our inventory. If the material arrives in unsaleable condition or the transportation charges are excessive—we must bill you for the ex-

tra costs involved. If you desire a replacement for the items being returned please specify exact description or secure our catalog reference before sending a replacement order. We realize that returning an item is an inconvenience for you as well as for us. We hope the transaction can be promptly concluded to our mutual satisfaction."

Such a policy would create enough good will among customers to more than offset restocking costs.



"We're prompt on rejects."

### 3 Buyers Spend \$8 Million a Year

A small group does a substantial buying job for National Vulcanized Fibre. Efforts to do things more simply and logically have kept overhead down and improved performance.

LIKE MOST P.A.'s with small departments, Bob Clinton of National Vulcanized Fibre can't go in for elaborate or spectacular improvements. He has to keep chipping away at the details that push up costs and hinder efficiency.

Clinton and only two buyers spend about \$8 million a year for the Wilmington, Del. producer of fibre products, insulation, and laminated plastics. (This does not include rag purchases, which are made at the plants.) With the help of a secretary and one parttime clerk (four hours a day) they handle about 50 orders a day for four plants.

This is a pretty compact organization for such a workload. But

Clinton has been able to do a big job with few people by making some simple but effective changes in procedure.

An open order file, alphabetical by vendor, has been made the core of purchasing's paperwork system. Everything pertaining to a particular order—acknowledgment, receiving copy, invoice, changes, correspondence, etc.—goes into one folder. Once an order is complete, the folder is removed intact and placed in a completed order file, again by vendor.

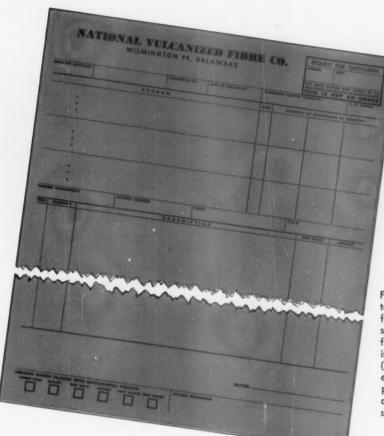
#### Keep Files up-to-Date

There is also a separate correspondence and inquiry file. When an order is issued on the basis of an inquiry, all relevant material is moved into the open-order folder. Material is kept in this file for a maximum of a year. Then it's thrown away, on the theory that more up-to-date information is easily available, so why clutter up valuable space with paper you don't need.

The new system has eliminated a lot of moving about and searching for information on a specific order and has also cut out several clerical operations. Previous-



Vulcanized Fibre P.A. Bob Clinton and his two buyers, Jerry Pincus and R. L. Jackson. This small but highly efficient staff is able to place around 50 purchase orders a day thanks to the no-frills purchasing procedures worked out by Clinton.



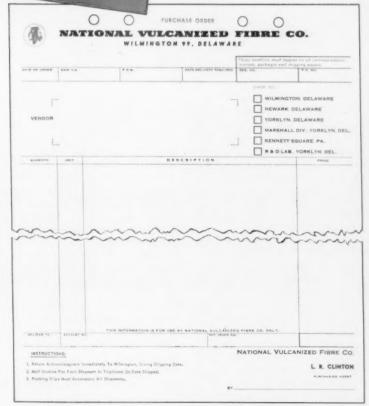
Four-part request (left) can be used to obtain quotations from three different suppliers. Carbon is arranged so that only one name appears on a form—except for the first copy, which is kept in purchasing. First two copies (original and acknowledgment) of the eight-part purchase order (below) are pasted together at the bottom for quick removal and dispatch to the supplier.

ly, when orders were filed numerically, receipts and on-order figures were posted by hand to individual cards. There's no need for either the posting or the cards now. A simple listing of orders by number is kept in a notebook for checking purposes.

Buying assignments are now made by commodity. One buyer buys supplies, MRO items, small tools, and office supplies, the other, raw material and production items. Clinton buys capital equipment. The other assignments are switched from buyer to buyer every four months.

Clinton only recently installed the commodity system but is already convinced that it's more effective than the old method of buying by plant.

"When one man was buying everything for one plant," he says, "a salesman might have to see at least two and usually three people. Now he sees one. It makes things easier and saves time for



both salesmen and buyers, and they both like it. Even when we were all in the same office there was a certain amount of overlapping and duplication in our buying under the old system. Now with responsibility for an item centered on one man we can set up an economic ordering quantity and stick to it."

#### Let the Buyer Follow-up

On the disputed question of follow-up Clinton sticks with the let-the-buyers-do-it school. His approach is pragmatic, not dogmatic, however. The buyer specializes in a commodity, he knows his vendors, and he has the complete story on an order in one handy folder in the open order file, so why not let him do it.

Expediting is not a large prob-

lem at National and setting up an elaborate system would be adding needless overhead. Yet a certain amount has to be done, so it's simpler to turn the responsibility over to the buyer. Each buyer gets expediting copies of his own orders. He can set up his expediting system any way he wants, based on known lead times and delivery requirements.

Clinton is looking ahead to other changes that will make purchasing's work easier and improve its performance. The next move is to develop a one-number system for requisitions and purchase orders. Plant requisitions and orders are now numbered independently of each other. Under the new system, sets of numbered requisitions will be assigned to authorized personnel in the plants.

After receiving requisitions, purchasing will type orders on a master and have 8-part purchase order sets printed by the company's multilith department.

memorandum carbon, and quotation) so they'll be

quickly recognized among other papers.

#### Mechanization the Next Step

Clinton is also looking into the possibility of mechanizing certain purchasing operations in his department-order writing, for example. The size and type of his operation doesn't justify the use of a complex unit exclusively by purchasing. But there may be ways to use a tape machine on a part time basis that National Vulcanized uses to program production. At any rate, Bob Clinton will give it a try because, as he puts it, "I'm ready to try anything that's available to help us do a better purchasing job."

# Special Section on Purchasing Training



Why it's important
Tips from an expert
How two companies handle it



### The Problem of Purchasing Training

By John Van de Water,

Technical Editor

TODAY'S CONCEPT of the purchasing man as administrator, negotiator, economist, engineer, mathematician, and general counsel on material matters, puts something of a burden on his education, if not on the man. Attempts to produce P.A.'s of such superb accomplishments and exalted stature inevitably raise two questions: "How do you get him that way?" and "How do you keep him that way?"

In the good old days (not too long ago for many of us) a young man went to work for the hardbitten veteran who proved to be a gruff, tough, but human taskmaster. Today we are overwhelmed exuberant than its practice. Even the most indoctrinated will occasionally experience an atavistic moment and growl, "I learned by going to work, why bother with all this fancy preparation?"

Indeed, why must we? The trouble is that today's purchasing departments do need administrators, economists, engineers, and all the rest. We may not want them all in a one-package Superman, but we do need people who, in spite of specialist training, can see the woods as well as the trees: engineers who can talk value, economists who know how the product is put together, administrators

with student training, refresher courses, seminars,

self-development, personal development, profes-

sional development. . . . Each process tends to be

gregarious, mechanical, efficient, somewhat dehu-

manized, but above all fast, Fast, FAST! Neverthe-

less, we may suspect, and the cynics insist, that

our lip service to education is considerably more



"Today we are overwhelmed with student training, refresher courses, seminars . . . each process tends to be gregarious, mechanical, efficient, somewhat dehumanized, but above all, fast, fast, fast."

#### They're Needed Now, not Later

No longer do we have the choice we had years ago—to let a man come up the slow and easy way and find out 15 or 20 years later how he came out. Not only can management ill afford to take the risk, but we need trained people now, not later.

who have at least heard of linear programming.

Today's buyer must be able to negotiate longterm contracts, purchase expensive equipment, analyze values, follow commodity markets, keep his paperwork flowing smoothly, and be able to talk with confidence to people at all different levels. He doesn't learn these things as a clerk, as an expediter, or as an invoice checker. After acquir-



"No longer do we have the choice we had years ago—to let a man come up the slow and easy way and find out 15 or 20 years later how he came out. Not only can management ill afford to take the risk, but we need trained people now, not later."

ing a basic education, whether in liberal arts, economics, management, or engineering, he must be trained to meet the broad needs of the business.

The student training program, therefore, has become an important part of corporate life. It may not have all the answers, it may not even have some of the right answers, but it is a beginning, and it is here to stay. Purchasing people must play an important role in such education. They must decide what they wish to accomplish and how they will go about it. We may still be overly concerned with producing instant buyers, instead of mature, competent businessmen. But a critical view of the training program, its ingredients, and its results, can only lead to better purchasing people and to better purchasing.

On the other hand, the successful purchasing manager, to keep up with the changing professional environment, has little choice but to try those seminars, refresher programs, etc., that propose to keep him up to date. He may not be faced with the frightening prospect that haunts some engineers, who, ten years out of college, find that the new graduate filled with the latest know-how, can

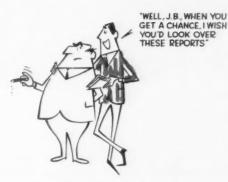


"The purchasing executive who does not keep up with the advances in his profession may well wonder about the baby Frankenstein monsters he is creating in his own training programs."

be more productive than they. He must remember, however, that purchasing too has its "state of the art" and the purchasing executive who does not keep up may well wonder about the baby Frankenstein monsters he is creating in his own training programs.

#### The Future Is a Challenge

He must face the fact that the modern graduate is confident, knowing, and considers himself not the least inferior to his employer. The young man expects to achieve in a few years the economic status his parent now enjoys, often not too far from that of the boss himself. He is challenged, not frightened, by automation, materials management, and value analysis. He wants to move quickly and is not easily content with secure anonymity.



"Today's college graduate is confident, knowing and considers himself not the least bit inferior to his employer. He expects to achieve in a few years an economic status not too far from that of the boss himself."

While this does not imply that the established purchasing manager should look upon the newcomers as immediate competition, it does suggest that he must not be content to rest upon past achievements. The company trainee is as much a part of the changing environment as the new computer management proposes to install. The purchasing executive should know how to make the student a top-notch purchasing man, just as he should be able to tell management how the computer can contribute to purchasing efficiency, or how a materials-based organization can cut operating costs.

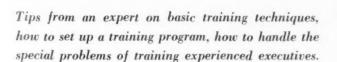
Again, the seminars and refresher courses may not have all the answers. Perhaps the P.A. or his buyers need to go back to college. Perhaps they should work through their purchasing association to provide sensible courses that meet specific needs.

Whatever his approach, the purchasing man must recognize that a rapidly expanding technology and rapidly expanding society make some form of perpetual education essential for almost everyone. Because of its front-line position in industry, purchasing can least afford to shun this responsibility.



Photo Courtesy Ford Motor Company

### The ABC's of **Purchasing Training**





By Arthur R. Pell, Vice President, Harper Associates

HE EVOLUTION of purchasing into a vital management function has created a critical need for more and better purchasing training. Most purchasing executives realize this but most of them have done little about it.

This is clearly evident from a survey made a year ago by Pur-CHASING Magazine which showed that in companies with formal training programs, only 22% include purchasing on the agenda.

One of the main problems of

the purchasing executive who may be thinking about starting a training program is inertia. It's hard to get steamed up about something as intangible as training. There is no immediate payoff and when the payoff does come, it's difficult to measure. Then there's the additional problem of time. How do you find time when every day is jammed with the hectic activity of day-to-day buying? Finally, there's the problem of how do you go about setting up a program once you're convinced that you have to have one.

There are no easy answers to these problems. But the fact remains that purchasing will not be able to meet the challenges of its increasingly complex job unless it puts training on an organized basis. The only solution to the time problem is to make time. For some companies such as Dow Chemical, the solution has been after-hours training, (see p. 76). The problem of how to get started

is easier. First work out a definite program. Decide what is to be taught, who is to do the teaching, and how much time should be given to the program.

#### **Techniques of Teaching**

Of course, whoever takes over the training job must be familiar with some of the basic techniques of good teaching. He must be aware of the value of repetition, especially for material that has to become second-nature knowledge for the trainee. Recognition is another instrument for effective teaching. When the act of learning is rewarded, the learning process is faster, easier. One of the most satisfying experiences a trainee can have is to feel that he is making progress and that his progress is recognized. Another very important aspect of teaching: the attitude of the teacher. If he has no faith in the training program the odds are it will fail. Whether training a person in a routine, such as how to keep inventory control records, or in a more complex matter like interviewing salesmen, the teaching techniques are much the same:

(1.) Preparation: Find out what the trainee knows about the subject. It is best to work from the known to the new. This helps the trainee associate new material with what he already knows. It also enables the trainee to correct misunderstandings before they become serious problems.

Motivate the man. Tell him what he will be expected to learn, how it will fit into his overall job and how he will benefit from this knowledge. An interested learner is a receptive learner.

(2.) Presentation: Break the material into phases. Present one phase at a time. Stress key points. Get feedback so that you can tell

whether the material is being absorbed. Patience is important.

Make sure your instructions are complete and clear. Good teachers have found that a person learns much faster if he understands the reason for doing what he is expected to do. Tell why as well as how.

Demonstrate. If you are teaching a trainee how to buy a particular product, have him sit in on your interviews with salesmen. After the salesman leaves, go over the interview with him. Answer his questions. Tell him why you handled the interview the way you did.

(3.) Performance: When you feel the trainee understands the material, have him do the job. Let him interview a salesman or prepare a purchase order. In evaluating his action, have him explain each key point and tell you why

(Please turn to page 110)

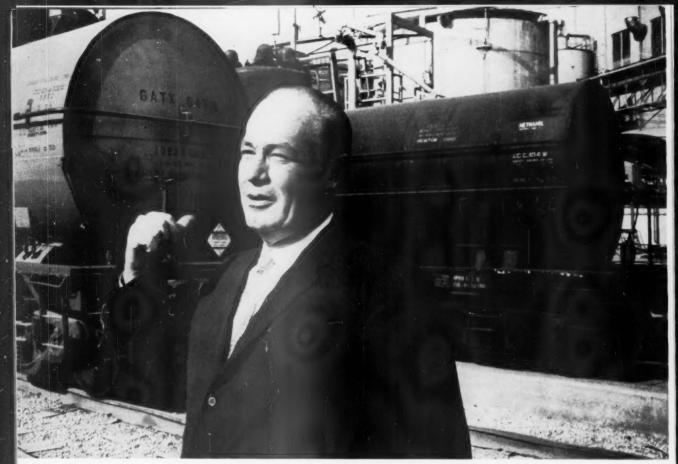


If you are given the job of running a formal training program you are obviously in for a lot of work. However, here are some quick tips which will make your job easier and make your training sessions more productive:

- (1.) Don't talk down to trainees. You are dealing with adults, not children, and many of them are experts in their specialties.
- (2.) Let the trainees express themselves. Education should be a shared experience between student and teacher to be successful.
- (3.) Don't do all the talking. Every voice gets boring after a while. Never have one instructor talk for more than an hour.
- (4.) Don't teach by the book. Assume the trainee can read. If you can't add to the text, you're no teacher.

#### Ten Tips For Better Training

- (5.) Prepare for each session. Although a teacher should respond to his students, he, not the students, should control the subjects covered.
- (6.) Don't mix students. Training sessions should include people with approximately the same background in the subject.
- (7.) Keep sessions short. Five two-hour sessions are more valuable than one ten-hour session. But each session should last at least one hour.
- (8.) A little "hamming" helps. To some extent, every teacher is a performer. He should make his material as interesting as possible.
- (9.) Seeing is believing. Visual aids make presentations easier to understand; they work well even on the most abstract subjects.
- (10.) Summarize at the end. Set aside the last five or ten minutes of each session for a complete summary to clear up any misunderstandings.



Mead Corporation Director of Purchasing George Brombacher, Jr., the guiding force behind the company's highly effective purchasing training program.



# 35 Weeks-From Trainee to Buyer

By Leonard Sloane,

Details of the Mead Corporation's intensive purchasing training program which makes it certain that the company will always have a reservoir of highly skilled purchasing executives.

PURCHASING TRAINING is a continuous, well-organized program at Mead Corporation, Chillicothe, Ohio.

Every year a new trainee is brought to the Chillicothe plant, where George E. Brombacher, Jr., director of corporate purchasing for the paper and packaging manufacturer, has his headquarters. The trainee is usually a man under 30, who comes from another department, another company, or (in rare cases) directly from college.

For instance, this year's trainee is Dick Nelson. Nelson is now coming to the close of his training program and, as he puts it, "What I have learned up to now has broadened my knowledge of departmental functions, processes,

machinery, personnel, needs, and company policy. The training is helping me to handle the increasingly complex demands of my work."

Once selected by Mead's senior purchasing personnel a trainee goes through a thorough training program—usually about 35 weeks. The program is arranged so that the trainee spends a week or two in each department in the plant. New men first spend two weeks in the purchasing department. There they are introduced to other members of the department, are instructed in work processes. learn basic purchasing and paper trade terms, and find out what to expect during the training period.

#### The Manual Is His Guide

The trainee is also given a manual which is his "textbook" during the training period. Entitled "Purchasing Training with Mead," the manual covers just about everything the trainee should know about Mead's operations.

For example, one section contains a brief, informative descrip-

tion of the paper mill operations. It also has a drawing which shows the essential equipment in papermaking as well as the work flow. And it has photographs showing how paper is made, an organization chart of paper mill personnel, and a bibliography of books on the general subject. The information in the training manual concerning the paper mill adds to the information the trainee gets during his two-week visit at the mill, where he studies the entire paper-making process, from the wood stage to the final dried reels of paper.

Perhaps the most important part of each section, however, is the series of questions which the trainee has to answer at the end of his stay in each department. These questions are designed to test how much he learned in each department.

#### 162 Questions About the Mill

The paper mill section of the manual includes questions on the beater room ("What causes variation in the electric load on the beater?"), pulp refining ("How is a uniform rate of feed maintained to the refiners?"), and paper machines ("What is the purpose of a smoothing press?"). In all, there are 162 questions covering this phase of Mead's operations.

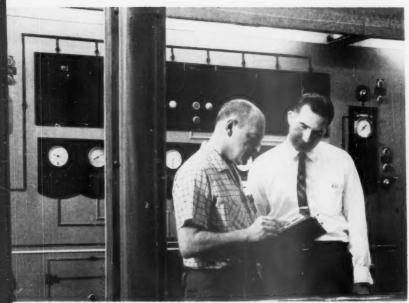
The same formula is followed for the other plant departments

#### REFERENCE QUESTIONS Purchasing Department

- Outline the general functions of the Purchasing De-
- 2. What is a Purchase Requisition? With whom does it originate?
- 3. Why is it made out in quadruplicate? How are the
- What is a Purchase Order? Where does it originate?
- Why is it made out in quadruplicate and how are copies distributed?
- 6. What are the standard instructions and conditions printed on our Purchase Order forms? Explain the necessity for them.
- 7. Explain the makeup of our Purchase Requisitions.
- 8. Where are Purchase Orders filed? Purchase Requisitions?
- Explain our system for handling our file copies of Purchase Orders. Of Purchase Requisitions.
- 10. Where does the processing of invoices begin?
- 11. What is the purpose of the rubber distribution stamp that is placed on invoices.
- Outline the routine through which the invoice passes before submission to the Accounting Department.

- 13. What is the "Unfilled" order file? The "Tickler" file? The "Filled"
- 14. When is the Tickler file transferred to the General
- 15. What is the purpose of the "Inquiry for Price"?
- 16. In some instances containers in which supplies are packed, such as drums, wire boxes, etc., are invoiced subject to full credit upon return. How are such returns handled to assure proper credit?
- 17. Why is Traffic under supervision of Purchasing?
- 8. What are the duties of the Traffic Department?
- 9. What procedures are followed in tracing shipments?
  - Explain procedures in filing loss and damage as well as other claims against the carriers.
  - What is the purpose of the Stock Record book?
  - Why is a record of the Freight Bills kept in this
- What is the importance of the Machine Clothing Report? Of the Daily Materials Report? Of the Monthly Report from Stores covering major Finishing Department supplies?
- What is the purpose of the Daily Car Report?

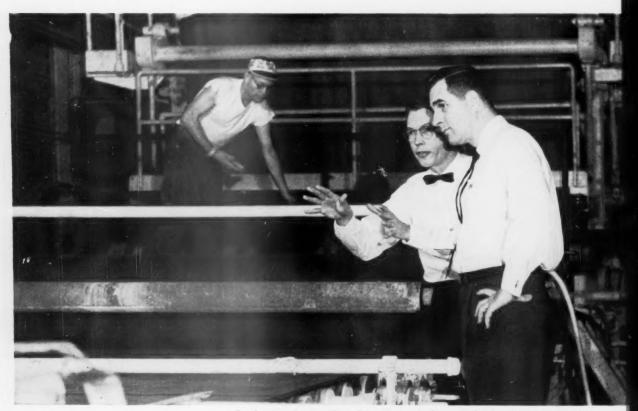
As the trainee finishes his stay in each of the various Mead departments he has to answer a series of questions in the training manual. The questions shown here cover purchasing operations.



The current Mead purchasing trainee, Richard Nelson, gets on-the-spot information about how paper-making raw materials are used from C. R. Van de Carr, assistant superintendent at one of the paper mills in Chillico'he. Scene is the control booth of the Trimby metering sys'em.



Nelson takes a close look at some wood chips, as technical services engineer R. L. Adams describes the fine points. Purchasing keeps in close touch with the technical services laboratory to work out the problems of obtaining special materials.



By the time he completes his training, Nelson will be familiar with all of the machinery used to make paper. Don Collins, paper mill superintendent, explains the operation of fourdrinier wire on a paper machine.



Trainees learn how Mead's inventory control system operates. Here Nelson is checked out on inventory by William Schilder, manager of the stores department.



During the 35-week training program, Nelson spends many hours actually working in the purchasing department, as well as learning about plant operations. In addition, home study and reading assignments are an integral part of the program.

that take part in the purchasing training program—storeroom, personnel, pulp mill, maintenance, industrial relations, power, engineering, and accounting. Descriptions, photographs, organization charts, and questions are included for each section.

#### **Combine Theory with Practice**

Director of purchasing Brombacher feels that trainees who can answer the questions are well on the way to being able to buy materials and parts for the various departments. The combination of practical knowledge in the departments plus schooling in purchasing techniques is essential for buyers in the highly competitive paper industry, says Brombacher.

Every Thursday afternoon during the training program, the trainee gets together with Brombacher or R. A. Bissmeyer, Corporate Coordinator of Purchasing,

to go over any problems that may have come up. In these face-toface sessions, Brombacher gets a chance to learn a great deal about the trainee. These meetings help Brombacher size up the trainee's potential as a buyer.

Mead's training program has been going for six years. During this period, six trainees have completed the course and gone on to purchasing jobs in Chillicothe or other Mead plants.

"Our policy is to promote from within," says Brombacher. "That's why our purchasing trainees have such an excellent opportunity. They have every chance to move up in purchasing if they prove themselves."

Former trainees are enthusiastic about the program, and many now hold responsible purchasing jobs throughout the corporation. A 1955 trainee, Ted Becker, for example is now corporate P.A.

The length of the purchasing

training program sometimes varies according to the age and experience of the trainee. A man who worked for Mead for a few years in another department may be able to cut a few weeks out of his training, while someone with no experience will have to spend additional time learning fundamentals.

#### Trainees Give Their Opinions

After the trainee completes the program, he's asked to submit a critique of the entire purchasing training setup. Brombacher often gets ideas on how to improve the program from these informal reports. For example, the length of time spent in particular departments has been changed on the basis of trainee suggestions. By keeping training on an organized basis, Mead purchasing is assured that it will be able to handle the future challenges that come its wav. - END



The excellent training program at Dow Chemical's Texas Division gives Director of Purchases Bob Loomis (center) assurance that he will always have a high caliber purchasing staff.

# Training a Purchasing Staff From Scratch



Dow Chemical's Texas Division has been expanding so fast that it suddenly became necessary to put through a purchasing training program on a crash basis. Conceived under pressure, the program, now in its third year, has been refined, broadened and strengthened. It's now rated as one of the best of its kind in the country.

Many Good buyer training programs are undoubtedly developed under pressure. The very conditions that make better training necessary—influx of new people into purchasing, an increase in workload, expansion of purchasing responsibility—practically force the purchasing executive's hand.

He doesn't have time to sit around and work out a program at leisure. He needs better people—now. So he has to jump right in and get started and build the program as he goes along.

This is precisely what happened at Texas Division of Dow Chemical Company—with surprisingly good results. A training program was started during a period of division expansion. It was frankly experimental and in three years has undergone several basic changes. How well it has gone over is clear: attendance at all sessions (held at night and on a voluntary basis) has averaged 85%; the buyers have taken an active interest in the program (which Dow calls a Department Discussion Program) and year after year ask for more.

"The division and the department were growing rapidly when we started," says Charles Frink, who developed the program. "To get a staff we had to take people

who had the mental and educational qualifications we needed, but not the experience, and tell them 'buy.' We couldn't send them to school—we didn't have the time. We had to get into training immediately—even though we knew we didn't have much teaching know-how."

The experiment began with a modified basic lecture course, conducted by division executives and senior purchasing personnel, including Director of Purchases Robert Loomis. The subject matter was essentially that found in college textbooks on the fundamentals of purchasing. Actually, lecturing was at a minimum. Most



Attendance at Dow Texas Division's evening training sessions has averaged over 85%. Meetings are held every month and are open on a voluntary basis to all male members of the purchasing department, including clerks.



When expansion increased purchasing's workload, division buying head Bob Loomis moved quickly to set up a training program, including lining up important purchasing figures as guest speakers.

of the subjects were covered in round-table discussions.

Included in the first year discussions: the purchasing function, the purchasing organization, relationships with other departments, forms and procedures, quality and price, inventory and purchase lot size, vendor relations and selection, legal aspects of purchasing, and value analysis.

#### **Pre-Session Study**

Before each session the buyers (and other male employees of the department who were invited to attend) got a rough outline giving the objective of the session, the important areas to be covered, and a reading assignment in Lewis and England's "Procurement" and Heinritz's "Purchasing."

At the end of the first year, Loomis and Frink took what is probably one of the most important steps in training a relatively sophisticated and highly educated group of purchasing people. They asked the buyers (1) whether they wanted to continue the program; (2) what form they thought the sessions should take; (3) what subjects they wanted covered.

The answers were practically unanimous: (1) yes; (2) there should be more participation by individuals or small groups; (3) we want more "how-to" information than we got the first year.

Frink got to work on a curriculum that would meet these requests. Meanwhile, from the start of the program, he had been collecting information and advice from a number of people and organizations prominent in purchasing education. He acknowledges help from, among many others, the National Association of Purchasing Agents, the Purchasing Agents Association of Toronto (which started the first correspondence course in purchasing), the Purchasing Agents Association of Connecticut, and the General Electric Company.

The second year's program was divided into two phases. The first involved appearances by purchasing executives from other companies. Executives were chosen from various types of companies, most of which had different organizational structures from Dow. All were successful purchasing men, with notably efficient departments. In discussing their own buying operations, they laid particular stress on those techniques and policies that had contributed to company profits.

#### Speakers Were Top Men

Among the speakers were such outstanding purchasing figures as Ray O'Neal, Swift & Co.; C. E. Colvin, Ethyl Corp.; and Bob Kelley, Dresser Industries.

The visitors spoke at alternate meetings. Between their appearances the sessions were devoted to presentations by groups of six buyers discussing various phases of purchasing. Each group had to research the subject and discuss it in a way that would be of practi-

cal help to the rest of the class.

Group projects included those on: better use of time, buy-or-lease vehicles and equipment, labor relations, work habits, value a n a l y s i s-standardization. The groups made their own selections and were left free to make their presentations in any form—dramatic skits, straight lectures, demonstrations, etc.

#### **How Other Divisions Operate**

The third and current program again reflects the interests and requirements of the buyers. At the close of the last term, they suggested that emphasis this year be put on how other Dow divisions operate, and how purchasing can work with them. To date, presentations have been made by the engineering, accounting, and traffic departments. A number of guest speakers will also be invited to address the sessions.

We're satisfied that experimenting and allowing the buyers to determine what they want to study and talk about has paid off," says Frink. "In the training group we have about 50 people with diverse backgrounds and education. Yet we haven't had any trouble finding areas of common interest. We feel that's because we let the people have a hand in choosing subjects and methods of discussion. A minor problem was keeping the discussion from drifting into personal problems-and that's done by having a strong leader at each session." DEND



# **AMA Purchasing Division Holds First Seminar**

THE PURCHASING profession ly at the executive level. has always had strong outside help in its efforts to improve training standards and methods.

From the earliest days of the National Association of Purchasing Agents, colleges and universities have offered special courses, both for experienced purchasing executives and for undergraduates. Leading training organizations like the Materials Management Institute, the Industrial Education Institute, and the American Management Association, have in recent years developed advanced techniques in purchasing education, particular-

A milestone in AMA's long and close association with purchasing was its setting up this year of a Purchasing Division. The move was doubly pleasing to purchasing executives: it indicated AMA's awareness of purchasing's position in management; it presaged new and better training programs from AMA.

#### Two 3-Day Sessions

AMA didn't wait to get its expanded program going. It started with an orientation seminar "Organization and Management of the Purchasing Function." The first three-day session was run recently at the AMA's management center at the Hotel Astor in New York. Another three-day program which will complete the seminar is scheduled for next month. Twenty one purchasing agents and buyers heard leading purchasing figures discuss such subjects as management's responsibility to purchasing, internal purchasing organization and responsibilities, purchasing job descriptions, vendor performance and relations, managing the critical problem areas between quotations and purchase orders, negotiations, operation of



during a coffee break.



Three P.A.'s listen intently to one of the guest speakers. L. Two purchasing agents, Jim Haney, Blaw Knox Co., (I.) to r.: Paul Lamphear, Wolverine Brass Works; Art Masland, and Omer Jeter, Lane Co., talk over mutual problems Federal Reserve Bank of Philadelphia; and Bob Wellman, Frontier Chemical division of Vulcan Materials.



Doug Smith of General Electric's purchasing service department was co-chairman of AMA's recent purchasing training seminar and also spoke on materials management.



Twenty-one buyers and purchasing agents from all over the country attended the seminar presented at AMA's management center in New York's Hotel Astor.



The two chairmen—Gailon Fordyce of American Cyanamid (I.) and Doug Smith outline procedures for the seminar. A follow-up session is planned for next month.



Samuel C. Farmer, director of AMA's purchasing division, is responsible for planning and organizing all purchasing workshops and orientation seminars. Here he outlines one of the topics to be discussed informally at a project group session.

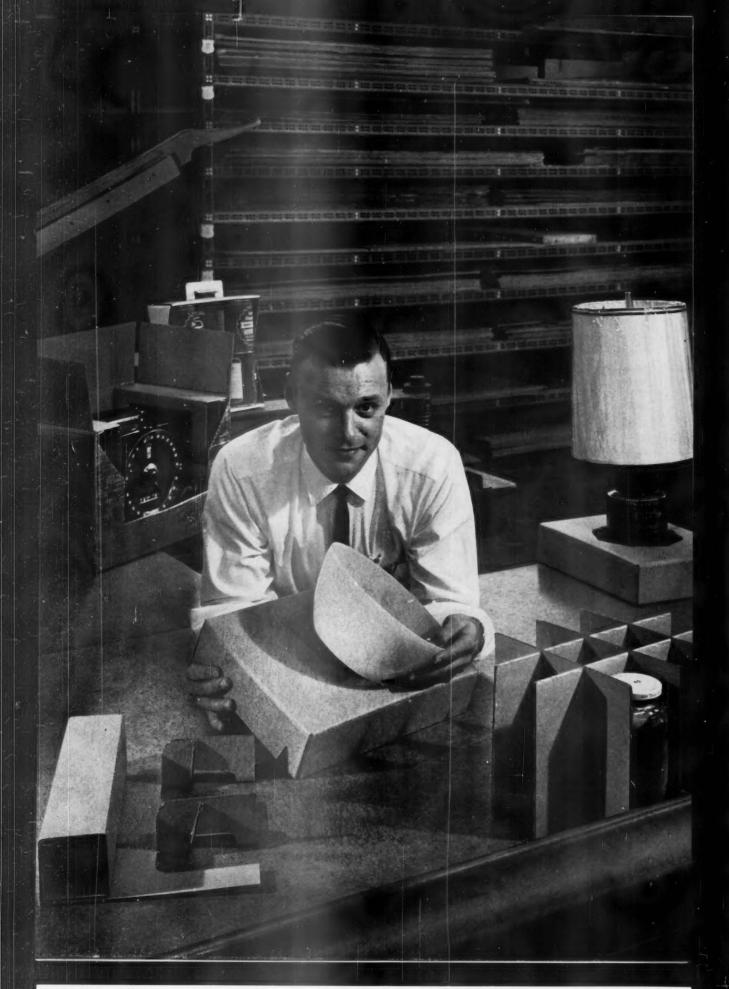
the Air Force survey team, materials management, and liaison with marketing.

A feature of the seminar was the project sessions held in the afternoons. The P.A.'s broke up into smaller groups and discussed in detail important topics of interest to the profession. For example, one free-wheeling session dealt with "Purchasing's Responsibility for Effective Trade Relations and Effective Controls

Guaranteeing It."

AMA says a big advantage of the seminar technique is the chance it gives P.A.'s to swap problems and answers with others under conditions of confidence and frankness. Some buyers who had specific problems when they arrived found specific solutions that they could apply in their own companies.

Gailon Fordyce, of American Cyanamid, and Douglas V. Smith, of General Electric, volunteered their services as co-leaders of the seminar. Guest speakers included such top calibre men as Colonel Robert H. Ammon, USAF, New York Air Procurement District; F. Albert Hayes, material management consultant; George Renard, consulting editor of the Journal of Commerce; C. L. Hinton, Dresser Operations, Inc.; and Edward R. Speare, marketing consultant.



## No wonder his wife leaves the packing to him!

You can count on Union-Camp box designer Bob Pyle to come up with the most efficient corrugated interior packing-no matter what the product or how it is shipped.

HE GLASS BOWL in our picture is safe enough in Bob Pyle's hands. The trick is to see that it travels just as safely once it is packaged.

This takes an unusual combination of skill and experience. The kind Bob is known for. Bob is one of a team of Union-Camp corrugated box engineers who specialize in interior packaging of a product.

It's a challenging specialty. Just consider the problems of packaging a television set, for instance. Says Bob: "The set must be locked in position and perfectly cushioned against shock. Then we have to allow sufficient clearance on all sides so that the finish is protected against scratches. And the box should have sufficient stacking strength so that it can be tiered up high in the warehouse.

"Then there's the packing operation to consider. The box must be adaptable to high-speed assembly line operation so that the job can be done as quickly and cheaply as possible-consistent with the protection needed."

Other products, Bob points out, may call for different types of safeguards in the package. To keep out dust. To prevent corrosion or spoilage. Actually, the forms of inner packing are as varied as the items they protect.

Some of these items are well-known: food products, canned beverages and appliances, for example. But some others may surprise you. High-voltage equipment weighing over 300 pounds. Centrifugal pumps. Heavy industrial sewing machines. Formerly they required expensive crating: Now they travel safely and economically in

custom-tailored containers developed by Union-Camp box designers like Bob Pyle.

Oddly enough, small-cost items often can create the biggest problems. One case in point was a lamp sold in variety stores for only \$2.98. It was made of a fragile plastic, and the manufacturer's profit margin was so low that he had almost no budget for the intricate packaging that would seem to be necessary for proper protection. Bob Pyle devised a simple, inexpensive inner packing unit. To date, not a single lamp has reached its destination in a damaged condition!

Could a Union-Camp box designer like Bob Pyle help improve your product's protection, reduce your packaging and shipping costs? The answer is as near as your telephone. Call in a Union-Camp corrugated box representative. He'll tell you about our complete packaging evaluation program. It includes package analysis, box design and development, specifications control, merchandising counsel and in-plant surveys of your materials handling operation.

Or, a note on your letterhead will bring a prompt reply. Why not write today?



Union Bag-Camp Paper Corporation-233 Broadway N.Y. 7, N.Y.

Plants:

Pleansm, Mass.; Allied Container Corp.,
Route 128, Allied Drive

Frenton\_New Jersey; 1400 E. State St.
Washington, Penna.; P.O. Box 285

Cleveland, Ohio; "0200 Miles Ave.

Sharonville, Ohio; P.O. Box 86

Chicago, fill., 4545 West Palmer

Benton Harbor, Mich.;

11th St. & Stritain Ave.

Subsidiary Companies Miver Raisin Division

# Free-Machining Stainless Steel Cuts Production Costs

A NEW FREE machining stainless steel that can be machined up to 50% faster than regular Type 303 promises increased output of parts and longer tool life. Other advantages include greater corrosion resistance and a superior surface finish.

#### Sulphur Content Cut 50%

Designated Uniloy 303MA, the new chromium-nickel stainless is a development of the Universal-Cyclops Steel Corp., Bridgeville, Pa. The company estimates a marketing potential of \$25 million annually for the material, mostly in the form of cold finished bars.

The key to the difference between the patented Uniloy 303MA and standard Type 303 is in the analysis. The U-C material contains only half as much sulfur as Type 303—13% instead of .25%—which is made possible by the addition of .70% of aluminum.

The conventional method of at-

#### **Typical Composition of New Stainless Steel**

Uniloy 303MA	Type 303
10	.10
. 1.50	1.50
50	.50
13	.25
. 18.00	18.00
. 9.25	9.00
50	.50
	_
	10 . 1.50 50 13 . 18.00 . 9.25 50

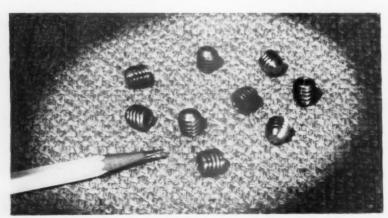
Adding aluminum to the alloy and cutting sulfur content in half combines the advantages of a clean low-sulfur material with high machinability.

taining high machinability by adding sulfur actually results in undesirable side affects. Sulfur takes the form of non-metallic stringers and inclusions, which have a bad effect on fabrication. The superior mechanical and corrosion resisting properties of Uniloy 303MA are primarily the result of a cleaner steel obtained by using lower sulfur content.

In one application, the new stainless eliminated a 20% loss in the rolling of seal rings. Where the non-metallic inclusion of the standard material caused the parts to split at the edges in the rolling operation, the cleaner metal avoided the problem. Similarly, Uniloy 303MA can be successfully roll threaded with excellent surface finish and at considerable savings.

The new material can be electroplated to a very high lustre resembling results obtained with low sulfur stainless steels—such as Types 302 and 304. Corrosion resistance of Uniloy 303MA is 25 times greater than that of Type 303 and approaches that of Type 304. The material can be satisfactorily arc welded, flash welded, stud welded, and brazed when proper techniques are used.

Write No. 18 on Information Card—Last Page



Good workability and fine surface finish of Uniloy 303MA stainless steel help reduce machining costs by making possible roll threading of screws such as these.

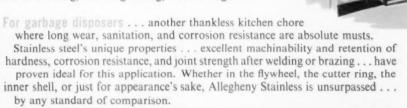
# Allegheny Stainless for beauty with a function



For sinks and hardware . . . stainless steel, the logical choice. Here is an application where Allegheny Stainless can really shine, literally.

Under the roughest use, under the battering of heavy pots and pans, under constant detergents and grease residue, the stainless surface remains unblemished, free of nicks or chips, and no corrosion or dark stains from chemically treated water, either. Stainless is easy to fabricate and finish, too. The new, special quality stainless steels now available make tough draws like bowls, drains, and baskets a simple matter. And, stainless can be the most economical metal for plumbing fixtures and hardware . . . looks better, longer, too.

With automatic dishwashers . . . there is freedom from a thankless task. Stainless steel helps keep it that way. Only pump impellers of stainless steel can be trusted to deal out the Niagara-like rush of water needed to power-wash and power-rinse dishes really clean. And with Allegheny Stainless, there's no corrosion, no erosion, no chance of staining dishes. There are stainless guides and channels to insure easy, no-stick operation of the door and trays. There is stainless out of sight . . . in manifolding, seals, seats and drains . . . for real peace of mind. There is stainless in plain view . . door fronts, counter-high tops, hinges and hardware . . . for ease of cleaning, and long lasting, tasteful elegance.



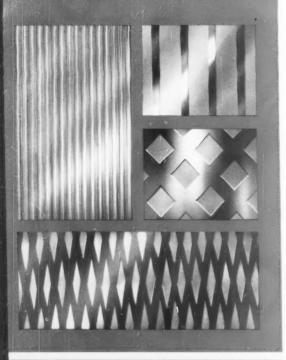
For heating coils . . . Type 332 Allegheny
Stainless sheathing provides heat and scaling
resistance to 1650 F. For high strength at red
heat to support the heaviest pots and pans without
deforming, for sliding wear resistance and ultimate clean
ability, for economy in high wattage surface units
or low wattage oven units . . . for all these
reasons, stainless steel and kitchen heating
are inseparable. But stainless has more to offer
. . . a flash of brilliance in the trim ring around
the burners—odor-free, wipe-clean drip pans
under the burners—decorative wall tile

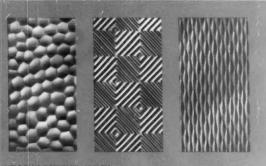
spatter-shields—an entire custom cook top, gleaming bright and utterly impervious.

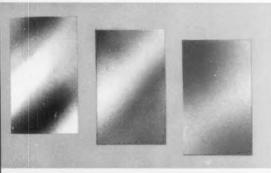


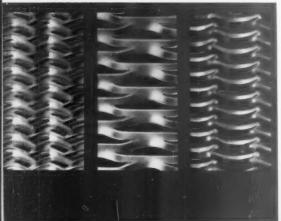
Appliances and Allegheny Stainless











# IDEA STARTERS

Patterns An endless variety of decorative surface patterns can be mill-produced on Allegheny Stainless Steel. Generally achieved by specially prepared rolls, these patterns are often extremely practical as well as ornamental, serving to protect and stiffen the decorated panel, and to diffuse reflected light in interesting and useful ways. Virtually any design that can be drawn on paper can be reproduced on stainless steel.

Aside from its practical aspects, A-L patterned stainless also serves to broaden the scope of a designer's imagination. It can be used gracefully to break up large, flat areas of stainless panels, to cause the eye to focus on one aspect of an appliance design over another, and to emphasize or minimize shape and apparent dimension. Patterns can be obtained over any surface finish, and unlimited combinations of mirror-bright and softer lusters are possible. For light weight and freedom from dents and scratches, let Allegheny Ludlum show you what patterned stainless can do for your product line.

Texesures Where even greater strength, stability, and resistance to warpage and "oil canning" are required, a wide variety of heavily textured or Rigidized patterns is also available. These textured impressions, either unidirectional or multidirectional, are considerably deeper than those on patterned stainless and have a marked stiffening effect on the decorated panels, permitting economically lighter gages of Allegheny Stainless to be specified.

**Pinishes** The appliance maker is limited in his choice of stainless finishes only by the degree to which fabricating and joining marks must be blended into the final appearance of the surface. Available Allegheny Ludlum finishes cover the complete range from frosty white through a brilliant mirror shine, with the softer finishes permitting more grinding, buffing, and blending to remove all trace of weld beads, scratches, and other fabricating marks.

It is a highly questionable practice, however, to habitually specify mirror finishes, and especially to attempt a glass-like polished flatness in large areas. An appearance of waviness, even on exceptionally true surfaces, inevitably results due to light reflectivity. Highly reflective finishes also tend to reflect light as a sharp line image at right angles to the lay or "grain" of the polish, and may tend to introduce distracting elements into an appliance design.

These difficulties are eliminated with the softer, brushed finishes, whose frosty white gleam can be integrated beautifully into any design treatment without regard for reflections.

panded Stainless Many designs are now incorporating the beauty of Allegheny Stainless in the relatively new, functional form of expanded metal. To all the useful attributes of stainless steel, expanded metal can add the ability to control admission of light, heat, liquid, semi-solid, gas, and sound to or from any enclosure. For the more practical applications, expanded Allegheny Stainless can be utilized as baskets, guards or gratings, operating in any environment and under service conditions that would ruin other materials entirely. For purely decorative uses, the gleam of stainless can be retained in the expanded grid-like pattern to add soft or sparkling accents to door fronts, vents, and other functional appliance openings.

Appliances and Allegheny Stainless

## ...for your design notebook

An important service which Allegheny Ludlum extends to the American metalworking industry is the maintenance of one of the country's finest research and development organizations to search out new methods, new steels, and new ideas. Many of the recent developments should be of considerable interest to the appliance industry.

TYPE 430 The phenomenon of roping is an excellent example. Some appliance fabricators were running into a furrowed, wrinkled appearance in their product after severe stretching operations. Aside from heavy mechanical polishing to remove these lines or "ropes," rejection was

the only alternative. A-L's solution was a combination of processing and alloying steps which produced uniform ductility across the strip. A-L Type 430, low roping quality, is already in use throughout the country. It's worth investigating.

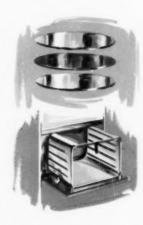
BRIGHT ANNEALING Speaking of polishing, it used to be necessary to buff up the surface of the strip because of the dulling, pickling treatment employed to remove oxide after mill annealing. Not any longer. Allegheny Ludlum's bright annealing process has been in full production since November 1, 1960, annealing stainless in

pure, dry hydrogen on a tonnage basis. No oxidation, no surface-dulling pickling needed to remove it. The bonus is a clean, bright surface ready for fabrication with little or no buffing needed. For a really pretty shine, ask your A-L man to show you a #2 Bright Annealed finish sample.

A-L 433 There's even a new steel to try on your tough corrosion problems. Tentatively called A-L 433 and patent applied for, this copper-moly modification has the greatest corrosion resistance of any straight chromium stainless steel.

Developed from Type 430, and available now at no price premium over the standard 430, A-L's new 433 is especially suited for applications where contact corrosion has been a problem.

AND, here are other developments worthy of your notice:



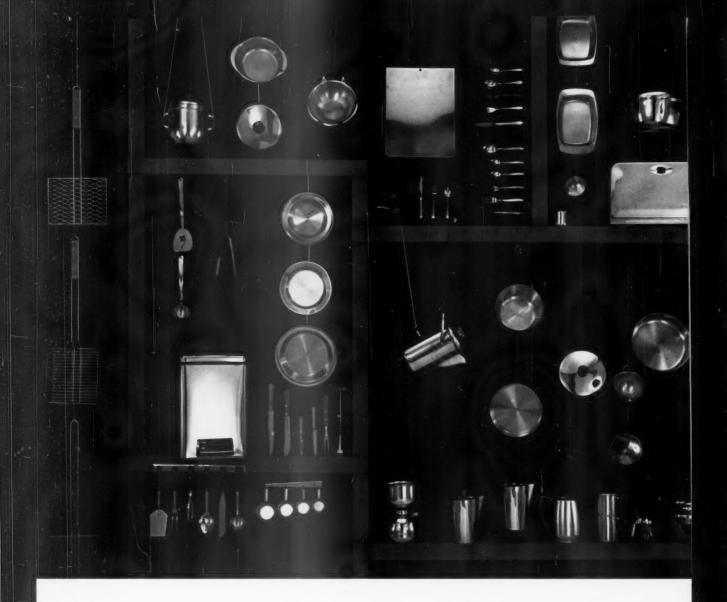
There is much going on with stainless steel cladding. There are flat disc cooking surfaces in the works made up of a stainless-copper sandwich with heating coils nestled inside. Its most obvious advantage is more efficient transfer of heat to pan bottom, plus better looks. Cast griddles are coming in for their share of attention, too. There's considerable interest in a thin stainless cladding to improve the appearance and the functional surface finish, and to eliminate buffing the castings.

There's a coating under development that has a lot of people wondering. It's destined to make finger-marking and water spots on seldom cleaned stainless a thing of the past. Maybe, it will be used in much handled areas. But, more important perhaps, it has one other extremely interesting ability. It can retard heat tinting on stainless grades not otherwise immune to this disqualifying characteristic. This makes it ideal for oven liners, since it will produce a surface that is bright and reflective, and will stay that way through years of carefree resistance to spilled-on, baked-on foods. And, it should be valuable in preserving the gleaming good looks of functional range hoods and kitchen exhaust system components.

All these things come out of research. All are new or fairly recent developments. All come from Allegheny Ludlum, the acknowledged leader in research in the specialty steel industry.

But, there's more being done, and much more yet to be done. There's interest once again in stainless wire . . . for refrigerator and oven shelving, for freezer baskets, for springs, fasteners, and other applications. Strong enough to permit considerable reductions in bulk and weight, stainless steel wire is moving back into its rightful place in the kitchen once again.

There's work being done with new stainless applications... with jobs that only stainless can perform, like the developmental dishwasher with built-in garbage disposer. And all this work is being done with Allegheny Ludlum as an active, interested partner, keeping pace with the needs and desires of the appliance industry, working with the appliance maker and backing him up with the A-L team of research and service specialists, unmatched anywhere. If you could use an experienced, helping hand with your metal problem, your A-L development specialist is only a phone call away.



Large or small . . . by the ounce or in 25 pound slices . . . stainless steel offers the same lustrous beauty and honest utility to custom kitchen builders and gadget makers alike. Sparkling, easy-to-keep-clean kitchen utensils of stainless steel will keep their display counter shine in spite of constant exposure to kitchen acids and stains. Whatever the job, however often or infrequently the utensil is scoured and cleaned, stainless steel will keep it bright and shiny, ready for the close-up scrutiny of the most fastidious housewife. Eat from it, drink from it, or boil your coffee in it . . . you can depend on it when it's Allegheny Stainless . . . practical, functional, elegantly indestructible.



## ALLEGHENY LUDLUM STEEL CORPORATION



General Headquarters: Oliver Building, Pittsburgh 22, Pa.

EVERY FORM OF STAINLESS ... EVERY HELP IN USING IT

# GAYLORD packaging service is "right next door"

Wherever you are, there's a Gaylord Man nearby. He's always ready to lend a hand with any container project — plus a head full of practical knowledge about your entire packaging and shipping operation.

And he is backed up by a fully-integrated nationwide organization, staffed and equipped to give you complete service.

Find out what a good neighbor he can be. Give him a call today.







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HEADQUARTERS ST LOUIS PLANTS COAST TO COAST

#### Products and Ideas

#### Pinch Valves Control Flexible Tubing Flow



A pinch valve for flexible hose and tubing permits flow control of inks, paints, adhesives, slurries and other liquids. Valve slips over outer diameter of hose and controls flow through gentle constriction of tubing wall, eliminating need for expensive fittings. Valve eliminates build-up of solids within line which sometimes occurs with gate valves. It is designed to effect complete shut-off without harmful stress on tubing or hose. Valves come in sizes from 1/4 in. I.D. to 11/2 in. I.D. Graymills Corp., 3605 N. Lincoln Ave., Chicago 13, Ill.

Write No. 19 on Information Card-Last Page

#### Pick-Up Feeder Speeds Screwdriving Production



An instant pick-up feeder simplifies and speeds up screwdriving production. Vibrating positioning bowl feeder with funnel feed-up keeps constant flow of screws in proper position for contact and instant pick-up by hand or power screwdriver, whether equipped with vacuum, magnetic or spring-clip pick-up holder. Unit is especially applicable for small to miniature size screws. Use is as simple as dipping pen in inkwell and provides easy one-hand operation. Burklyn Co., 3429 Glendale Blvd., Los Angeles 39, Calif.

Write No. 20 on Information Card-Last Page

#### Freight Pry Pulls Spikes and Nails



A freight pry, which is primarily designed for easier, safer moving of heavy cases, crates, die blocks and machinery, now comes with a slotted nose and can be used as a spike and nail puller. Extra aid is particularly useful in removing freight blocking from railroad cars and trucks, eliminating need for crowbars or other nail-pulling devices. Straight grained 84 in. long hickory handle is thickest at its vertical dimension for maximum beam strength and is encased at base with 3 in. steel channel. Capacity is 5000 lbs, and approximate weight is 45 lbs. Nutting Truck and Caster Co., 1201 W. Division St., Faribault, Minn.

Write No. 21 on Information Card-Last Page

#### Stainless Increases Its Corrosion Resistance

An even more corrosion-resistant stainless steel is expected to have wide application in automotive, architectural, furniture and appliance field. Alloy will be available in same gages and widths as

standard stainless. Metal was particularly designed to resist metaleating chemicals used in road-clearing and de-icing. Alloy can be bright annealed and costs no more than regular stainless. Allegheny Ludlum Steel Corp., Oliver Bldg., Pittsburgh 22, Pa. Write No. 22 on Information Card—Last Page

#### Reciprocating Saw Tackles Tough Jobs



A versatile reciprocating electric saw handles the toughest cutting jobs in wood, metal and composition materials. Saw makes straight, curved and circular cuts in practically any material. It is easy to handle, compact in design and built for years of heavy duty. Offset angle of blade provides quick chip removal, fast cutting, and long blade life. Vibration-free reciprocating mechanism is driven by rugged 1/2 hp motor. Fifteen interchangeable blades are offered. Exclusive attachment lets operators make difficult flush cuts against any surface and in any position. Millers Falls Co., Greenfield. Mass.

Write No. 23 on Information Card—Last Page

#### Molecular Bond Produces Stainless Clad Aluminum

Stainless clad aluminum produced by molecular bonding is now available to the metalworking industry. Normally, ferrous and non-ferrous metals have little affinity, and this step is called the first successful molecular bond of the two metals. Many applications are expected, from cooking utensils to automotive parts—whereever combined characteristics of stainless and aluminum are desirable. Fairmont Aluminum Co., Fairmont, W. Va.

Write No. 24 on Information Card-Last Page

the inside story on fence and property protection save your company money and trouble by reading this advertisement or passing it along to the man who buys fence



It may take 10 years to find out if you bought a good fence. Buying chain link fence is a lot like buying carpeting: it takes years of wear and tear—usually about 10—before you know if you've made a good buy. At the time of purchase, only an expertly informed buyer can tell. The following discussion of property protection fence is intended to give you pertinent information and a supply of pointed questions to ask a supplier the next time you have to put fence around your company's property.



Fig. 1: Galv-After process, developed by Cyclone, assures uniform zinc coating over Cyclone Fence fabric. No uncoated ends or bends to invite corrosion.

## fence uniformly galvanized?

Some chain link fence is galvanized before weaving. Twisting, turning and bending by weaving machines may break the seal of zinc; leave uncoated ends to invite corrosion.

USS Cyclone Fence is galvanized after weaving. This Galv-After process, developed by Cyclone, means that none of the protective zinc is removed from Cyclone chain-link after it leaves our hot-dip tanks. This adds years to fence life.



Fig. 2: Prefabricated clip—unique with Cyclone—makes a cleaner, tighter job, gets the fence up faster.

## every part engineered to its job?

An industrial fence can cost a sizable sum of money. You have a right to expect your investment to pay off in 20, 30 or more years of solid property protection with relatively little maintenance. This means you want a fence that's engineered to the job, not just a haphazard collection of pieces and parts. Every part that goes into a USS Cyclone Fence is completely pre-engineered. The design, the weight, the mechanics are exactly right. Take the 4" piece of wire we use to fasten fence fabric to line posts. It's about the smallest thing that goes into a Cyclone fence, yet we've gone to the trouble of pre-shaping it into a clip. The clip makes a cleaner, tighter job and helps us get your fence up faster. This can save you money.

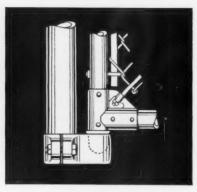


Fig. 3: Sleeve construction of USS Cyclone gate makes repairs easy. Remove a few rivets, insert a new part and you have a new gate.

#### gates easily repairable?

Most industrial fence gates are welded. Smack one with a truck and you have to burn off the damaged section and weld on a new one. It's a major rebuilding job. USS Cyclone Gates are made with sleeve construction. Remove a few rivets, insert a new part and you have a new gate. Cyclone gates are prefabricated. There's no cut and fit in the field. Saves us time, saves you money. Cyclone gates have adjustable truss rods. Most welded gates don't. The truss rods help true up a gate and keep it true. We say our gates never sag. They don't.

## are the line posts H-Posts?

The job of the line posts: to give you strength where you need it most—across the line of fence. If they're weaklings you may be in for trouble; someday they could be called on to stop the roll of a truck or halt the veer of a car. The stronger they are, the more protection your people and property will have.

The Cyclone H-Post is solid steel covered with a heavy coat of zinc. It's designed like a beam for extra strength. Its flange and web make a better bond with concrete than the round type of line post. There's no inside surface to corrode; all surfaces are exposed and zinc-protected. There's no well to fill with water if a top should loosen; in a freeze the expanding ice can pop a top right off a hollow post. The H-Post won't crimp if something runs into it. It has to be twisted first, then bent to put it down. If it does go down, it can be straightened by applying heat and pulling it upright and it will still be strong and look good. With the H-Post we use on industrial fence, you get almost a halfpound more metal per foot than you do with other types of posts. That means more strength at no extra cost.

Fig. 4: H-Post—developed by Cyclone—is designed like a beam for extra strength. Flange and web make excellent bond with concrete. No hidden surfaces to corrode.



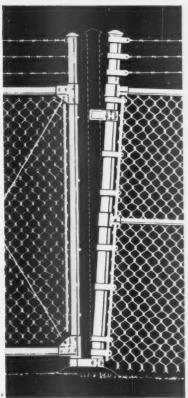


Fig. 5: Expert Cyclone crewmen set gate post a bubble off plumb. Heavy gate pulls post into line, gate swings true.

#### pickup crews... or fence men?

Your fence will look better and last longer if it's put up by men who know fence. Find out what kind of crew will put in your fence before you buy.

Most of our USS Cyclone crewmen have been with us for years. They know our specifications so well they can erect a fence from the "take off" on the back of our estimating sheets. There's a knack to putting in good fence. Example: the strongest post will give a little when you hang a heavy industrial gate on it. To compensate for this lean, an expert Cyclone crewman will set the gate post a bubble off plumb. When the gate is hung, its weight will pull the post into line. These are the little tricks of the trade that make the difference between a good job and an average job.

#### how's the price?

Price alone is not the answer when you're buying fence. You'd be amazed what can be done by opportunists to cheapen the quality of a fence along with the price, without your knowing it. You may get lighter gage wire than you specify. Cheaper fittings. Lightweight tubing instead of heavyweight pipe. A cheaper grade of zinc coating. Shorter posts than specified (the company that's willing to do it can save a foot or two of metal by not sinking the posts in concrete to an adequate depth).

Cyclone makes one grade of fence, no cheaper line. Our specifications are standard. USS Cyclone Fence is pre-engineered, prefabricated to the smallest part. We stand behind the quality of all our parts and workmanship. We're a direct organization, the only people in the fence business who have complete control of everything that goes into the fence, from the mining of the ore for the metal to the actual erection of the fence. If something goes wrong, we've got nobody to pass the buck to. That's why we take special pains to see that nothing does go wrong.

#### recognize the brand?

It's possible to go into the business of selling and erecting fence with little more than a desk, a telephone and the price of an ad. You can get out just as fast as you got in. That's why it's important to know the brand and know you can depend on it before you buy. Cyclone is the largest manufacturer of chain link fence in the world, and one of the oldest. We've been in business 74 years. A point particularly worth emphasizing: Cyclone is not a type of fence, it's the name of one particular brand of fence. The only company that makes USS Cyclone Fence is the American Steel & Wire Division of United States Steel. And the only people who sell it are the 69 Cyclone Branch Offices around the country.

continued on next page

#### can you count on service?

Cyclone has 69 branch offices throughout the country. Which means, wherever you are, we're reasonably close by. Say your home office is in Pittsburgh and you want a fence around your plant in Houston, Texas. You call our Pittsburgh office and we handle it from there. A man is sent out from our Houston branch to estimate the job. All paper work, correspondence and telephone calls are handled through Cyclone. You don't move a finger until you're ready to sign a contract. That's the most convenient service in the industry. USS and Cyclone are registered trademarks.

GENERAL OFFICE: 614 SUPERIOR AVE., N.W., CLEVELAND 13, OHIO.

#### 69 CYCLONE BRANCH OFFICES

Albany, Georgia P. O. Box 509 Phone: HEmlock 2-6580

Albany, New York 167 Chester Street Phone: HE 4-6715

Atlanta, Georgia 4646 Deere Drive Chamblee, Georgia Phone: GLendale 7-6336

Batavia, Illinois P. O. Box 304 Phone: TRemont 9-5510

Beaumont, Texas 4975 Port Arthur Road Phone: TErminal 5-2501

Birmingham, Alabama 1017 N. 28th Street Phone: ALpine 2-3327

Bloomington, Illinois P. O. Box 13 Phone: 824-8705

Boston, Massachusetts 360 Eastern Avenue Malden 48, Massachusetts Phone: DAvenport 4-2600

Buffalo, New York 69 Cary Street Phone: TL 6-7828

Charleston, West Virginia P. O. Box 162 Phone: Dickens 4-4521

Charlotte, North Carolina 1003 Pecan Avenue Phone: EDison 3-8696

Chattanooga, Tennessee 4013 Tennessee Avenue Phone: TAylor 1-2831

Chicago 33, Illinois 13600 So. Brandon Avenue Phone: MItchell 6-2500 6348 W. Diversey Avenue Phone: NA 2-3784

Cincinnati 2, Ohio 1500 Fifth-Third Bank Building Phone: GArfield 1-4460

Cleveland 1, Ohio 1287 Marquette Road Phone: ENdicott 1-1230

Columbia, South Carolina P. O. Box 4063, Edgewood Station Phone: ALpine 2-0423

Columbus, Ohio 101 N. High Street Phone: CApital 4-2435

Dallas, Texas 1703 Cedar Spring Road Phone: Riverside 1-5222 Davenport, Iowa 611 Kahl Building Phone: 3-3931

Detroit 7, Michigan 1925 E. Hancock Avenue Phone: TEmple 2-2001

Erlton, New Jersey (Camden Area) 302 Marlton Pike Phone: HAzel 9-7777

Eugene, Oregon P. O. Box 1171 Phone: Diamond 3-7113

Flint, Michigan Box 623 Phone: CEdar 5-6608

Fort Worth 1, Texas 1316 East Lancaster Phone: EDison 5-4371

Fresno, California P. O. Box 1803 Phone: BAldwin 2-2021 Green Bay, Wisconsin P. O. Box 64

Phone: HEmlock 7-4752 Greensboro, North Carolina P. O. Box 9303 Phone: BRoadway 5-6641

Harrisburg, Pennsylvania 112 N. Second Street Phone: CEdar 4-4120

Hartford, Connecticut ½ Wawarme Avenue Phone: CHapel 9-6835

Houston 5, Texas 6513 S. Main Street P. O. Box 20084 Phone: JAckson 3-1613

Indianapolis 5, Indiana P. O. Box 55113 Phone: CLifford 1-0087

Jackson 115, Mississippi 117 Woodrow Wilson Avenue Phone: FL 3-6881

Kansas City, Kansas 2820 Roe Lane Phone: KEndall 2-2472

Lansing, Michigan 501 N. Walnut Street Lansing, Michigan Phone: IVanhoe 2-0624

Los Angeles, California 820 Thompson Avenue Glendale 5, California Phone: CHapman 5-2635

Louisville, Kentucky P. O. Box 33 Phone: JUniper 3-0408 Lubbock, Texas 2408 Clovis Road P. O. Box 1567 Phone: POrter 2-0836

Memphis, Tennessee 3610 Park Avenue (Mail Address: P. O. Box 6421) Phone: FAirfax 4-5422

Miami, Florida 2925 N. W. 42nd Avenue P. O. Box 55-7486 Phone: NEwton 5-4585

Milwaukee 2, Wisconsin N 57—13394 W. Reichart Ave. (Butler) Phone: SUnset 1-7381

Minneapolis, Minnesota 4450 Lyndale Avenue, North Phone: JAckson 1-3501

Newark 5, New Jersey 796 Frelinghuysen Avenue Phone: Bigelow 8-2600

New Orleans 23, Louisiana 6000 Jefferson Highway P. O. Box 23119 Phone: VErnon 3-8251

New York City 17, New York 71 Broadway—Room 708 Phone: Digby 4-9000, Ext. 709

Norfolk, Virginia 6413 LaRue Circle Phone: MAdison 2-4296

Oakland 8, California 954 60th Street Phone: OLympic 2-2060

Omaha, Nebraska 117 S. 17th Street (Mail Address: P. O. Box 542) Phone: 342-7315

Philadelphia, Pennsylvania Eagle and Hillcrest Road Havertown, Dela. Co., Pa. Phone: GRanite 2-7454

Phoenix, Arizona 2532 South Fifteenth Avenue Phone: ALpine 2-3025

Pittsburgh 36, Pennsylvania 77 Terence Drive Phone: TUxedo 4-3303

Portland 10, Oregon 2345 N. W. Nicolai Street Phone: CApitol 6-7305

Providence 3, Rhode Island P. O. Box 434 Phone: JAckson 1-6884 Riverside, California 3485 Orange Street Phone: OVerland 3-4717

Sacramento, California P. O. Box 267 Phone: Gilbert 2-7261

St. Louis 17, Missouri 6780 Southwest Avenue Phone: Mission 5-8017

Salt Lake City, Utah 3206 So. Main Street Phone: HUnter 4-6321

San Antonio, Texas 2015 West Avenue Phone: PErshing 4-5141

San Diego 1, California 2144 El Cajon Boulevard Phone: CYpress 8-8243

San Jose, California 460 Park Avenue Phone: CYpress 5-3310

Syracuse, New York 3001 James Street Phone: HOward 3-0417

Seattle 2, Washington 2021 Minor Avenue, North Phone: EAst 3-0911

Shreveport, Louisiana 4506 Mansfield Road P. O. Box 8158 Morningside Station Phone: ME 1-3601

South Bend, Indiana 102 Lafayette Building Phone: CEntral 4-5179

Spokane, Washington P. O. Box 95 Opportunity Station Phone: MAdison 4-0421

Tacoma, Washington 911½ Pacific Avenue Phone: MArket 7-4551

Tulsa 4, Oklahoma 3633 Charles Page Boulevard Phone: LUther 2-2227

Washington, D. C. 565 Jefferson Davis Highway Arlington, Virginia Phone: OTis 4-7992

Waukegan, Illinois P. O. Box 260 Foss Park Ave., North Chicago Phone: DExter 6-1180

White Plains, New York 2 Grand Street Phone: WHite Plains 9-8409



For safety, dependability, economy.



American Steel & Wire Division of United States Steel everything in this substation—
transformers, switches, bus, structure—was furnished by your
Westinghouse electrical wholesaler. You can enjoy the same fast, convenient service.



Westinghouse

1.04150

#### **Products**

Coolant Safe on **Nearly All Metals** 



A grinding coolant that is safe to use on both ferrous and nonferrous metals grinds steel and cast iron without rust and brass and aluminum without corrosion. Coolant is called ideal for central systems because it can be used interchangeably on all metals and because it will not damage valves or other fittings in coolant systems. Magnesium and ductile iron are the only metals on which new coolant cannot be used. It stays clean, resists rancidity, is nonfoaming, and keeps wheels open so they continue to cut to grade and grit size. Service Products Div., Johnson's Wax, Racine, Wisc. Write No. 25 on Information Card-Last Page

Two Units Give Accurate Flow Measure, Analysis



A turbine flow meter and flow analyzer provide accurate, economical in-line flow measurement and analysis. Portability and dependability are stressed. Abrasive or other difficult applications do not affect accuracy of flow meter. Analyzer receives pulse-type electical signal from flow meter, showing flow rate and totalized flow. Analyzer is self-powered unit that can be used at location more than 100 ft. from meter. If desired. either instrument will be furnished separately. Special Products Div., Halliburton Co., Duncan, Okla.

Write No. 26 on Information Card-Last Page

#### Improved Material for Printed Circuits



A copper-clad epoxy resin/paper base laminate is intended for printed circuit and other electronic applications requiring high strength and consistent electrical properties over wide range of humidity levels. Material withstands wide range of humidity and is inexpensive. It comes in sheets 36 x 36 or 36 x 72 in., in thicknesses from 1/32 to 1/4 in. Micarta Div., Westinghouse Electric Corp., Hampton, S. C.

Write No. 27 on Information Card-Last Page

#### Towel Has "Wet Strength" **But Not Too Much**

A unique paper towel designed for special needs features "timed wet strength." Multi-fold "Nibroc" towel is strong enough to do the job it was designed for, yet not strong enough to cause problems if accidentally disposed of into plumbing. Towel does not disintegrate too quickly, but will not remain intact to cause trouble if disposed of in sewage system. Towel & Tissue Division, Brown Co., 150 Causeway St., Boston 14,

Write No. 28 on Information Card-Last Page



# SPECIAL

from United States Steel

#### **HOW TO FEED A GIANT**

turn page for the story



#### SPECIAL REPORT from United States Steel (continued)



Steel is stocked for fast delivery . . . day and night.



This multiple-head flame cutting operation saves customer investments in equipment.



Many Service Centers are equipped to trim and slit coils of steel sheet.



#### Look what the "iron room" started

The call came at 7:00 P.M., halfway through the Steel Service Center Manager's dessert course. The voice on the other end belonged to a local steel fabricator. and there was an edge of panic in it. A mill shipment of steel had been stalled on the road by a storm. He had 38 men on his production line turning out a critical defense order, and he was running out of steel. He needed 5.000# of cut-tosize hot rolled steel sheets by midnight to keep the line running. The manager hung up and immediately dialed his stock supervisor, who was sure they had the right thickness in stock. Fortunately, it was company bowling night and the stock man, shear operator, crane operator and a truck driver were all in one place. The manager drove by the bowling alley, picked them up and they were off to work. By 11:00 P.M. the sheared-to-size sheets were loaded on the truck. By 11:45 they were on the fabricator's production line.

This scene could have happened in any one of hundreds of what are called Steel Service Centers. A scant fifty years ago, when the steel industry itself was in its infancy, they were known as "iron rooms." There were just a couple hundred in the entire country and they were usually located to the rear of a hardware store or harness shop. It was where you went if you needed any of the few iron shapes that were available in that bygone era. If you could pluck an iron room proprietor out of the past and introduce him to a modern Steel Service Center, he would not believe his eyes.

Most awesome of all, he would see incredible stocks of thousands of steel items: plates, sheets, bars, structurals, strip and dozens of other steel products in a nearly endless range of sizes and chemical analyses. He would see com-

plex equipment handling the steel as if it were feather light. He would see more equipment than he ever saw in a factory of his day. And he would be totally mystified by the computers and accounting systems that keep track of it all

In short, he would see one of modern business's most efficient distribution systems, a vast network of 1400 Steel Service Centers who take over where mill shipments of steel leave off. Nearly a half a million small steel users buy all their steel from Steel Service Centers, and every manufacturer buys at least part of his steel from them. A fifth of all the steel produced in the U.S.A. passes through Steel Service Centers and other types of steel distributors. Here's why:

Profile of a giant. To understand what a Steel Service Center is and why its role is increasingly vital to the health of modern manufacturing, you have only to look at the personality of their market, the metalworking "giant." It is made up of thousands of steel fabricating firms who will consume millions of tons of steel this year. About 80% of that steel will be shipped in full carload and truckload quantities directly from steel mills to fabricator customers. Thousands of small steel users couldn't stay in business if Steel Service Centers weren't on the scene to distribute the remaining 20%, and to provide the remarkable services they do today. And thousands of large steel users need Steel Service Centers to maintain efficiency.

The production line is the lifeblood of the metalworking giant. It chews up mill shipments of steel by the carload, and it works only as long as it is being fed. But gaps between mill shipments are inevitable, and that's where the Steel Service Center steps in with immediate delivery of the exact type, size, and quantity of steel needed to keep the line operating.

The problem of the small steel user

is just as critical. He requires smaller quantities and frequent, quick deliveries, so he buys where quick deliveries of small quantities are usual business practice—from a Steel Service Center.

Large or small operation, efficiency is the key to survival for a steel fabricator, and here the Steel Service Center plays an increasingly important role. Often the fabricator can't afford to invest in specialized equipment because it would stand idle much of the time, so the Steel Service Center invests in the equipment. Service Centers have equipment that does much of the preliminary work on steel, such as cutting to size, so it can go straight on the production line, and it is done with more efficiency because Service Centers can operate the equipment at higher capacity.

In this day of spiraling wages and costs, Steel Service Centers are showing steel users that often it is cheaper for the users not to stock large quantities of steel. They point to costs tied up in inventory space, extra handling, manpower, scrap loss, insurance and taxes. Their message: let us stock your steel for you.

Business can be a circus. Because they're in business to deliver steel when and where it's needed, Steel Service Centers have problems that would leave some logistics experts bug-eyed. A Center in Michigan, for example, has a man-sized IBM computer that hums furiously most of the day keeping track of the more than 20,000 steel items in stock, and trying to outguess the next week's market. Some Centers stock a complete range of steel products, others tailor their stocks to a specialized local market-sometimes to a single industry. But there's hardly any way of knowing what might happen next. The average order handled by a large Steel Service Center in Missouri, for example, weighs 1,300# and sells for under \$200, but it takes all kinds. One week in March, the Center's biggest order was a whopping 200,000# of mixed small quantities of hot rolled bars, structurals and sheets. That same week, a harried engineer from an airline's



Service Center metallurgist checks contour-sawed parts for dimensional accuracy and hardness.



Metallurgy is an important factor in Steel Service Center operations

maintenance shop rushed over in a taxi, left the meter running and paid cash on the barrelhead for a single sheet of hot rolled steel. They still talk about the day the circus came to town and the human cannon broke down. The human cannonball himself hightailed it to the Center for a scant 4 inches of ½-inch tubing so that the show could go on.

Emergency is commonplace. To the harried production line superintendent caught with his inventory down, to the steel user who buys steel only in small quantities, to the custom fabricator who has no way of knowing what his steel needs will be next week, the show must go on and Steel Service Centers see that it does. Last month, a Massachusetts Service Center found they had exactly 16 hours to locate, cut and deliver 180 pieces of 4150 annealed alloy steel 31/2" rounds in lengths from 36" to 2116". They got the message late at night and the cut-to-size rounds had to be on a local machine shop operator's lathes by noon the next day to meet an emergency delivery of critical aircraft engine parts. They did not have a pound of the required sizes in stock, but they got on the phones and located everything they needed in a branch Center 40 miles away. After a fast truck trip and a pre-dawn call to the cutting machine operators, the sized steel rounds began to flow into the machine shop and were on the operator's lathes before noon.

They were just beginning to breathe easily when a local housewife wandered in, presented a "grocery" list of steel bars and rods that her do-it-yourselfer husband needed. Her emergency, she explained, was that her husband would be furious with her if he didn't have the steel to work on that evening. Although she should have done her shopping in a hardware store, she got her steel and she got it with a smile because the Center believes in Service.

Who says service has disappeared? Millions of American shoppers complain that "service" of years past has vanished. But you don't hear that complaint about Steel Service Cen-

ters; here, service has never been better. Service Centers not only do the "impossible" in getting steel where it's needed when it's needed, but they're making sure a full spectrum of fringe services are available, too. Because there are over 10,000 different steels available today, Service Centers.make available to their customers extensive metallurgical service so that those customers can be sure the right steel has been selected for the job. And Service Centers are helping their customers with fabricating problems, often suggest cost-cutting design changes, and are providing more efficient ways to deliver steel to customers with more of the preliminary operations already completed. They're endlessly tinkering with new ways to provide service through use of electronic computers and improved handling equipment, like forklifts that hang from overhead traveling cranes, that will get steel on its way even faster.

One New Jersey Center developed a method of cutting irregular shapes from heavy stainless steel plate that amazed the experts and pulled inquiries from many design engineers.

Our stake. It all leads us to say that we at United States Steel-producers of the widest range of carbon, high strength, alloy and stainless steel quality products in the industry-are proud of our association with the descendant of the iron room: the Steel Service Center. For years we have demonstrated our interest by actively helping them sell. USS has furnished metallurgical and technical information and assistance to Steel Service Centers for their use in selling steel to their customers, and we have traditionally promoted warehouse markets by stimulating greater use of steel. Why? Because of another fact we're proud of: of all the steel sold through Steel Service Centers, more of it is made by United States Steel than by any other producer.



This mark tells you a product is made of modern, dependable Steel. Look for it on the products you buy.





This stainless steel gear blank was cut by a unique process developed by a Service Center.



It takes computers to keep pace with today's demands on steel distribution.



And in the executive offices, they're always looking for better ways to serve.

#### **Products**

#### Ultrasonic Unit Seals Polyester Plastics



An ultrasonic device provides a practical process of sealing tough polyester plastic films without heat. Applications for heatless sealing method include audio and video tapes, photographic film, machinery belts, plastic outerwear garments, etc. Automatic frequency control device adjusts to thickness of material and pro-

vides perfect seal, eliminating operator error. Unit is capable of providing seam widths from .030 to .1000 in. or wider. Overlaps may be made from 1/64 to 1/1000 in. or down to range of structural stability. International Ultrasonics, Inc., 331 Centennial Ave., Cranford, N. J.

Write No. 29 Information Card-Last Page

#### Urethane Foam Gives Sub-Zero Stability

A urethane insulating foam which provides dimensional stability at sub-zero temperatures in a low-density formulation eliminates shrinkage, a major problem in sub-zero applications. Formulation is expected to be valuable in insulating refrigerators, freezers, refrigerated warehouses. etc. Pour-in-place rigid foam formulation provides excellent structural strength and exhibits a Kfactor of 0.13-about half of others in common use. Plastics Div., Nopco Chemical Co., North Arlington, N. J.

Write No. 30 on Information Card-Last Page

#### Extra Long Gauntlets Protect the Wrist



Gauntlets which are extra long are designed so the wrists can be turned back to catch drippings. Gloves provide special protection for workers using acids, alkalis, oils and greases. Styles are available with either smooth or roughtextured fingers, curved for maximum flexibility. B. F. Goodrich Industrial Products Co., S. Main St., Akron 18, Ohio.

Write No. 31 on Information Card-Last Page

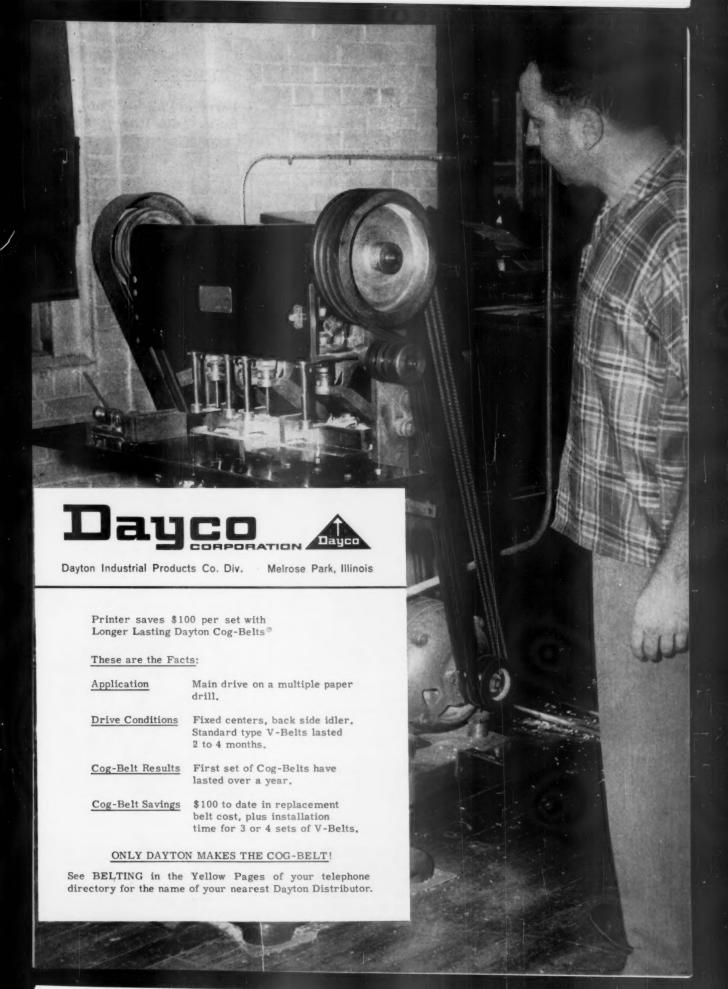
#### Outdoor Light Turns Itself On and Off



An outdoor luminaire for parking lots, ramps, etc., turns itself on at night and off in daytime. Any standard NEMA photoelectric cell can be used. Glass bowl refractor has optical prisms on inside and outside surfaces designed to give uniform illumination over broad area and avoid glare. Fixture parts are made of aluminum and stainless steel; unit takes incandescent or mercury-vapor lamps which can be replaced from ground with long-handled bulb changer. Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y. Write No. 32 on Information Card-Last Page



For More Facts Write No. 196 on Information Card-Last Page



# ALL Bristol socket screws are available with NYLOK\*

#### provides a self-locking grip against loosening due to vibration

For maximum reliability under severest conditions, Bristol offers its complete line of socket screws with the famous NYLOK self-locking inserts, including Bristol Multiple-Spline and hex socket set screws, socket-head cap screws, flat-head socket cap screws, button-head socket screws, socket shoulder screws, and socket pipe plugs. Here are their big features:

#### They LOCK

. . . Bristol socket screws with patented NYLOK principle lock by means of a tough nylon pellet, permanently imbedded in the screw body. The pellet projects slightly beyond the crest of the threads and is compressed when the screw is inserted, setting up a counter-force that creates a strong engagement of the threads opposite the pellet. All necessity for lock washers, or other auxiliary holding devices, is eliminated.



#### They SEAL

The NYLOK nylon pellet acts as a dam along the threads of the Bristol socket screw and positively stops all fluid leakage... far superior in this respect to ordinary screws which permit fluid leakage along a spiral path between the non-load-bearing thread flanks of screw and threaded hole.



#### They ADJUST

... and stay adjusted, time after time. Bristol-NYLOK socket screws make ideal adjusting screws because they provide the same effective locking action regardless of whether they are fully seated. And, the pellet's resilience makes it possible to change adjustments with ease and accuracy.



ACCO

Get full data on Bristol socket screws with NYLOK today... and remember, Bristol still offers the most complete socket screw line on the market, both plain and with NYLOK. See your authorized Bristol distributor or write the address below.

A.O.11

\*T.M. Reg. U.S. Pat. Off. The Nylok Corporation.



THE BRISTOL COMPANY Socket Screw Division Waterbury 20, Conn.

See us at the Design Engineering Show at Booth 1036 and the ASTE Tool Show at Booth 3318.

#### **Products**

Portable Polisher Cuts Boiler Tube Hours 90%



A portable polisher cleans and polishes exterior of boiler tube over a 4 in. length in eight rather than the normal 90 seconds, removing mill scale, rust and other deposits. Boiler tubes of 1 through 2 in. O.D. can be serviced by automatic tool developed for the marine, petroleum, chemical, powerplant, railroad and metalworking industries. Polisher is driven by air motor which spins a pair of abrasive belt sanders and simultaneously rotates them rapidly and continuously in a 360 degree circle around tube end to be polished. Hi-Shear Corp., 2600 W. 247 St., Torrance, Calif.

Write No. 33 on Information Card-Last Page

#### Air-Powered Wire Clippers Are Fast, Easy

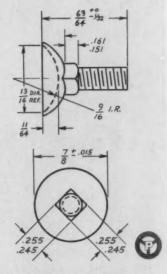


Pneumatically powered clippers designed for production wire trimming require 28 times less pressure to operate than conventional hand pliers. Hand-sized clippers weigh only six oz. and will cut soldered portions of 14 gage cop-(Please turn to page 104)

> For More Facts About Ad on Facing Page Write in No. 199→

# exclusively headed from KEYSTONE WIRE

rupt



Pheoll Manufacturing Company, Inc.

Swivel base for truck rear view mirror passes toughest tests before it hits the road!

Pheoll Manufacturing Company, Inc., Chicago, Illinois, assigned to produce the square-shouldered cup screw shown here, asked Keystone Steel & Wire Company for the exact cold heading wire. Keystone's Metallurgists developed double extrusion coated special processed quality wire.

Finished product specifications called for a uniformly smooth cupped surface, free of burrs for proper adjustment of the mirror. This is consistently achieved by Keystone Wire's quality control during every step of wire manufacture from open hearth steel making to finished wire.

Because this cup screw must withstand the rigors of the road, it is given the toughest tests to check head stress and ductility. Held in a vise, the shank is struck repeatedly until it is bent 90° without fracture. The cup portion gets similar treatment.

The success of this cold-headed square shouldered cup screw is due to the superior *flowability* of Keystone Special Processed Wire, another example of proper chemical analysis, correct thermal treatment and consistent uniformity throughout every coil.

Why not take advantage of the service offered by Keystone Metallurgists who will analyze your specifications and recommend the wire just right to solve your particular wire problems? Talk with your Keystone Representative for complete details, or write us, sending your part and blue prints, if possible.

Keystone Steel & Wire Company, Peoria, Illinois

#### KEYSTONE

WIRE FOR INDUSTRY
MANUFACTURED AT PEORIA, ILLINOIS, U.S.A.



# DOES YOUR OIL SEAL VENDOR ACCEPT QUALITY CONTROL AS HIS RESPONSIBILITY?

To insure performance from their products, manufacturers constantly look for means of assurance that their purchased components are manufactured to high standards. In many cases this requires costly inspection, sorting or testing.

If you conduct such tests on Oil Seals, for example . . . How well equipped must you be? What size sample should you take? How proficient must your inspection be?

We can tell you - in fact we can show you . . . for IPC has pioneered the most complete, exhausting QC

procedures that exist anywhere in the Oil Seal industry. Modern equipment operated by highly skilled technicians control every phase of IPC's production.

That explains increasing demand for IPC products, It also explains why our customers have fewer inspection headaches.

Why not get your next Oil Seal problem to IPC? You can rely on our "custom" approach to your problem and we will be happy to show you the elaborate QC steps that will insure the results you want.



OIL SEALS
PACKINGS
PRECISION MOLDING Custom designed for your application

#### INTERNATIONAL PACKINGS CORPORATION

@ IPC

Bristol, New Hampshire

P3

For More Facts Write No. 200 on Information Card-Last Page

## **BEAT THE WATCH**

# with time-saving STRIPPIT hole punching units

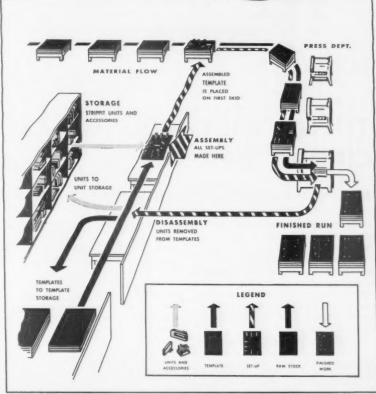


A stop-watch measures dollars and cents when it measures the time you spend setting up tooling. But the STRIPPIT System reduces hours to minutes and seconds... releases high bracket tool designers, die makers and die setters for work on more complicated dies involving forming, drawing and other operations.

All it takes is a good mechanic to make STRIPPIT setups on bedrails, T-slotted plates or drilled templates. The latter are particularly valuable in saving press down time because the complete setup can be inserted as soon as the previous press run is finished.

STRIPPIT self-contained hole punching units come in a multitude of sizes and capacities to meet any pattern requirement. Newest of these are the "BN" and "CJ" series which can be used for punching round or shaped holes. Also available are notching units and units for punching angles and extrusions. Write now for the STRIPPIT General Catalog.

See you at the Tool Show...booth 1305



#### Typical STRIPPIT setup takes only 25.33 minutes from work order to finished piece



The STRIPPIT System begins with examining the blueprint, selecting the pre-drilled template and placing on setup table.



Feed rails and work stops are mounted securely to the template according to the size and the shape of the blank.



Notching units and hole punching units are mounted. Pilot pins concentric with punch assure precise positioning.



Complete setup is inserted in press and bolted down, shut height is adjusted and first piece punched and checked.

# WALES STRIPPITING.

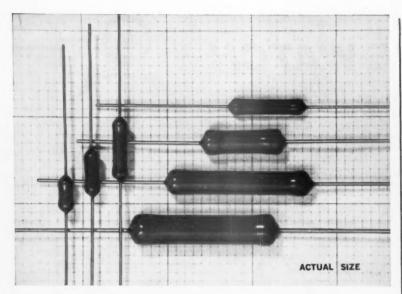
229 Buell Road . Akron, New York



In Canada: Strippit Tool & Machine Company, Brampton, Ontario

In Continental Europe: Raskin, S.A., Lausanne, Switzerland In the British Isles: E. H. Jones (Machine Tools) Ltd., Hove, Sussex, England

For More Facts Write No. 201 on Information Card-Last Page



# THESE "WIRE-WOUNDS" ARE CIRCUIT SHRINKERS..... newly

#### expanded line lets AXIOHM® power resistors go into smaller circuits!

Ward Leonard AXIOHM power resistors are now available in *seven* sizes—down to 2 watts, up to 12.5.

They're ideal for miniaturization in printed-circuits, industrial instrumentation and automation circuitry. But they're recommended for any electrical or electronic application where the highest stability and maximum overload capacity are required.

The seven AXIOHM sizes come in a

complete range of resistance values (see table) from 0.1 to as high as 75,000 ohms. Naturally, they feature the qualities Ward Leonard has made famous in power resistors:

Vitrohm vitreous enamel; Ward Leonard's specially made ceramic core; specially selected and matched resistance wire; and strong, permanent, lowresistance, spot-welded, lead-to-end-cap junctions.

	SIZ	ES ANI	RATIN	GS	
Rating (in watts)	Rating Type Resistances (ohms)		Dimensions (inches)		
	(in watts)	Type	Min.	Max.	Length*
2	2X	0.1	5,000	3/8	3/16
3	3X	0.1	10,000	1/2	3/16
4	4X	0.1	15,000	11/16	3/6
5	5XM	0.1	20,000	15/16	₹6
7	7X	0.1	25,000	1	3/16
10	10XM	0.1	50,000	13/4	3/6
12.5	12.5X	0.1	75,000	13/4	% 3/8

\*Less leads.

Get complete details in Supplement C to Catalog 15. Write for your copy and a list of stocking distributors today. Ward Leonard Electric Co., 50 South Street, Mount Vernon, New York. (In Canada: Ward Leonard of Canada, Ltd., Toronto.)



RESULT-ENGINEERED CONTROLS SINCE 1892

# WARD LEONARD ELECTRIC CO. MOUNT VERNON

RESISTORS • RHEOSTATS • RELAYS • CONTROLS • DIMMERS

For More Facts Write No. 203 on Information Card—Last Page

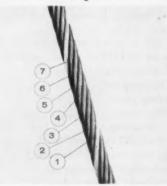
#### **Products**

(Continued from page 100)

per wire cleanly and instantly. Pointed cutting head, which is constructed of forged carbon vanadium steel, precision-ground and hardened, can be rotated 180 degrees to get at hard-to-reach leads on printed circuit boards. Clippers need just a whisper of air and will work off a ½ hp compressor. Chicago Pneumatic Tool Co., 6 E. 44th St., New York 17, N. Y.

Write No. 34 on Information Card-Last Page

#### Seven-Strand Wire Rope Fits Most Purposes



A seven-strand wire rope comes close to being an all-purpose rope. Made of seven strands plus an independent wire rope core, product combines high degree of abrasion resistance for long wear with extra flexibility. Sizes manufactured are ½ in. to 1½ in. incl., ranging in strength from 13.1 tons to 64.2 tons. Macwhyte Wire Rope Co., 2900 Fourteenth Ave., Kenosha. Wisc.

Write No. 35 on Information Card-Last Page



... old Barnsby has started to enforce his "ten minutes per interview" rule!!

For More Facts About Ad on facing Page Write in No. 84->

## Look to FAFNIR

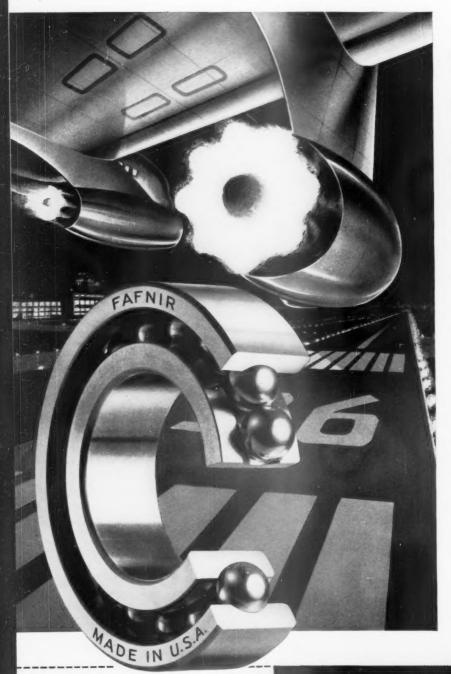


for miniature ball bearings of extra-clean vacuum-melt steel

Seconds after countdown, a microscopic pit in a miniature bearing could ground the most carefully planned space shot. To eliminate pits and other imperfections, Fafnir helped pioneer miniature ball bearings of vacuum-melt stainless steel. This "extra-clean" steel is completely free of impurities, and makes for flawless bearing performance. Look to Fafnir for leadership in ball bearings. The Fafnir Bearing Company, New Britain, Connecticut.

FAFRINGS BALL BEARINGS

## Look to FAFNIR



for cobalt-base alloy ball bearings that withstand high temperatures

Air bled from jet engines comes through hot. And the pressure is tremendous. For ball bearings that can stand these jet-hot heats and jet-high pressures, Fafnir turned to cobalt-base alloys. These "exotic" Fafnir bearings are ideally suited for turbodrive butterfly valves and similar high temperature, high load applications. Look to Fafnir for leadership in ball bearings. The Fafnir Bearing Company, New Britain, Connecticut.



#### MADE IN ILS A

This stamp on a Fafnir Ball Bearing means finest quality and workman-ship dependable supply competent engineering help and responsibility in meeting your bearing needs. It's worth bearing in mind.

#### THE FAFNIR BEARING COMPANY NEW BRITAIN, CONNECTICUT

Our ball bearing problem is Noise Corrosion
Miniaturization Heat. Other:
We'd like to talk it over with you and get Fafnir's ideas.

Name

Position

Company

Address

Zone

FAFINGS BALL BEARINGS

## Bartlett Chemicals, Inc. gives chemical buyers service with speed...from ample stocks



Pumping liquid caustic directly from tank car on Bartlett's railroad siding

When the teleprinter begins crackling at Bartlett Chemicals, Inc., a trained staff of chemical specialists swings into action. Chemical orders wired into the New Orleans office of this progressive distributor are processed immediately from ample stocks controlled by a continuous inventory system. The company maintains warehouses at Shreveport and Lafayette, Louisiana, for swift deliveries of liquid caustic and other chemicals to the oil and sugar industries of Louisiana, southern Arkansas and Mississippi.

Typical of the cost-cutting procedures is the use of ultra-modern 3,600 gallon tank carriers for liquid caustic. This equipment, with all-stainless steel meters, services more customers, in fewer trips and at lower delivery costs.

Bartlett Chemicals, Inc. is typical of the outstanding chemical distributors handling Mathieson chemicals. We will be pleased to tell you about a distributor in your area. Write OLIN MATHIESON, Baltimore 3, Maryland.



By phone or wire, orders are handled speedily



A last minute route check for a caustic delivery

CHEMICALS DIVISION

MATHIESON CHEMICALS: Ammonia • Sodium Bicarbonate • Carbon Dioxide • Caustic Soda • Chlorine • Formaldehyde • Hydrazine and Derivatives • Hypochlorite Products • Methanol • Muriatic Acid • Sodium Nitrate • Nitric Acid • Soda Ash • Sodium Chlorite Products • Sodium Methylate • Sulfur (Processed) • Sulfuric Acid • Urea

For More Facts About Ad
←on facing Page Write in No. 85
MAY 22, 1961

For More Facts Write No. 204 on Information Card-Last Page

107

#### **Products**

#### Industrial Control System Has Many Uses



A multi-purpose industrial control system—the first introduced by IBM—is designed for a wide variety of uses which call for the frequent sampling and interpretation of data in the processing and manufacturing industries. These include quality control, industrial process study, and process optimization. System can scan up to 300 instruments at regularly-timed intervals and provide instructions for adjustment of con-

trol settings. It can also perform the calculations necessary to build a mathematical model, or describe a process. Data Processing Div., International Business Machines Corp., 112 E. Post Rd., White Plains, N. Y.

Write No. 36 on Information Card-Last Page

#### Telephone-Pager Unit Uses Existing Wires



A transistorized combination telephone-loudspeaker unit utilizes existing inter-plant or mine telephone lines. Individually powered by two dry-cell, long-life batteries, unit has two primary functions—to call or page over loudspeaker and to communicate semi-privately by telephone. Units are vibration-proof; two or more can be installed on single line. Amplification from transmitter is effective as far as 10 miles over existing telephone wires. Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh 8, Pa.

Write No. 37 on Information Card-Last Page

#### Teflon Sheet Produced In Large Sizes

Large sizes of Teflon sheet are now available up to 8 in. thick and 25 in. sq. Largest known sheet previously on market is reported to be 3 in. thick. Sheets will provide fabricating savings and new design possibilities in electrical, chemical and mechanical industries, and are accompanied by general price reduction of 10% in TFE-fluorocarbon mill shapes. The Polymer Corp., 2120 Fairmont Ave., Reading, Pa.

Write No. 38 on Information Card-Last Page

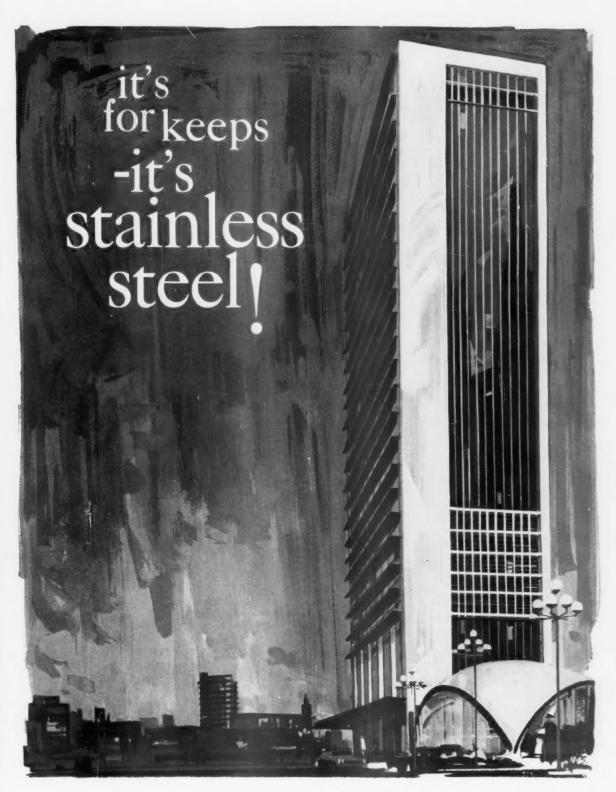


A Division of American Machine and Metals, Inc.

In Canada: Lamb Electric—Division of Sangamo Company Ltd.—Leaside, Ont.

For More Facts Write No. 205 on Information Card-Last Page

other Lamb Electric motors



Stainless—the building metal of permanence, economy and beauty.

McLouth Steel Corporation, Detroit 17, Michigan

Look for the STEELMARK on the products you buy



MCLOUTH STAINLESS STEEL

Are you buying LAMINATED PLASTICS or VULCANIZED FIBRE... as raw materials or fabricated parts?

## TAYLOR FIBRE CO. HAS 2 MODERN PLANTS TO SERVE YOU

NORRISTOWN, PA. LA VERNE, CALIF.

#### and belongs as an approved supplier

Taylor has the products... offers more than 50 grades of standard laminates, a group of Tayloron® materials, pre-impregnated materials, molding compounds, and vulcanized fibre. Also filament windings and a number of composite materials, including sophisticated combinations of laminates, metals and rubbers.

Taylor has the facilities. Its Norristown, Pa., plant, comprising some 300,000 sq. ft., produces both vulcanized fibre and laminated plastics . . . is one of the most completely integrated in the industry . . . even makes its own paper and a large percentage of its own resins. The La Verne, Calif., plant, with over 45,000 sq. ft. of floor space, specializes in the manufacture of laminated plastics for the convenience of West Coast customers. Both plants can supply basic materials or parts fabricated from them.

Taylor has the service organization . . . maintains 13 strategically located offices staffed with men qualified to help in the selection and utilization of Taylor materials.

Write for a copy of our laminated plastics selection guide and other literature pertaining to our capabilities for producing materials and parts to your specification. Taylor Fibre Co., Norristown 36, Pa.



For More Facts Write No. 207 on Information Card-Last Page

#### The ABC's of Purchasing Training

(Continued from page 71)

he did what he did.

Develop the trainee's confidence through praise. Correct errors—not by recrimination, but with constructive comment. Continue this technique until you are sure the trainee can carry on by himself.

(4.) Follow-up: Once the trainee is put on his own, he must be allowed to make his own decisions and take the responsibility for them. Naturally, you or some other executive should be available to answer questions or give advice.

The trainee should be checked frequently. Periodic conferences will help you keep tabs on his progress. Gradually these follow-ups can be cut until they are no more frequent than the checks made on the rest of the staff.

#### Changes Must be Made

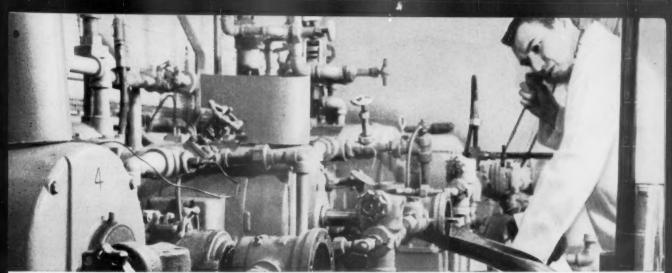
Naturally, when it comes to training experienced personnel, some changes have to be made in the teaching method. The most common problems involved in training experienced executives are the fact that their work has been too specialized and their lack of experience in decision making.

The problems that result from these two weak spots are obvious. Take the case of a purchasing department that is grooming three experienced buyers in the hope that one will eventually be able to move into the top purchasing job. Because they have all specialized, one may know all phases of raw materials buying, another might be an expert on components and the third might be well informed on the inside work of the department. The main problem is that none has more than a general knowledge of the overall activity.

To move up, each of these men would have to learn the complete job. This problem could have been avoided if earlier in their careers, each man had been given a chance to have more varied purchasing experience. However,

(Please turn to page 112)

For More Facts About Ad on Facing Page Write in No. 208 $\rightarrow$ 



**Listening for pump chatter.** Here—in Shell's Martinez, California, laboratory Shell Tellus hydraulic oils are subjected to the most demanding tests.

### **BULLETIN:**

### Shell presents a question-answer guide to help you select the hydraulic oils for top performance

Selecting the proper hydraulic fluid for your equipment can be one of your most important decisions. And it can pay off in many ways. Less down-time. Longer equipment life. Lower cost per unit.

Here are six bench marks to help you pick the best hydraulic oil for your plant requirements.

- 1. Does it have good oxidation stability? Oxidized hydraulic oil can form gums, lacquers and other deposits which may foul moving parts. Shell Tellus Oils are carefully refined to remove unstable, sludge-forming components—then fortified with a Shell-developed oxidation inhibitor.
- 2. Will it resist foaming and emulsification? Pump chatter and erratic operation are often the result of pump cavitation, brought on by oil foaming. Tellus® Oils contain additives to help prevent foaming.
- 3. Does it fight rust and corrosion? It is difficult to exclude all moisture from a hydraulic system. And moisture can form troublesome rust. Shell

Tellus Oils have been carefully compounded to resist corrosion.

- **4.** What are its lubrication qualities in continuous service? Shell Tellus Oils form a clinging, oily film on mating metal surfaces. This maintains a constant guard against wear.
- **5.** How does it react to temperature changes? This is a key factor in the performance of hydraulic equipment. Careful selection of the proper viscosity grade of Tellus assures satisfactory operation of your system over its entire temperature range.
- **6.** Is it available in several viscosity grades? Shell Tellus Oils are available in a broad range of viscosity grades. There's a special grade for virtually

every hydraulic requirement.

Ask your Shell Industrial Products Representative for facts on Tellus Oils. Or write: Shell Oil Company, 50 West 50th St., New York 20, N. Y.

#### A message to manufacturers of hydraulic equipment

There is a Shell Tellus Oil suited for your equipment.

- **1.** Your customers can get Tellus Oils at Shell depots everywhere. Readily available throughout the world.
- **2.** Quality is consistently high. Tellus always delivers top performance.



A BULLETIN FROM SHELL

-where 1,997 scientists are working to
provide better products for industry



### **Be Certain of:**

Faster Cutting Speeds
Longer Tool Life
Optimum Machinability
Superior Finish
Constant Uniformity

From Bar to Bar. . Shipment after Shipment

SPECIFY THE FINEST QUALITY . .

## WYCKOFF



#### WYCKOFF STEEL COMPANY

GENERAL OFFICES:

GATEWAY CENTER, PITTSBURGH 30, PA.
WORKS: AMBRIDGE, PA.—CHICAGO, ILL.—NEWARK, N.J.
PUTNAM, CONN.

WYCKOFF STEEL PRODUCTS • Carbon, Alloy and Leaded Steels Turned and Polished Shafting • Turned and Ground Shafting • Large Squares • Wide Flats up to 12½" x 2½" and 14" x 1½" • All types of Furnace Treated Steels including Carbon Corrected Steels

For More Facts Write No. 209 on Information Card-Last Page

#### The ABC's of Purchasing Training (Continued from page 110)

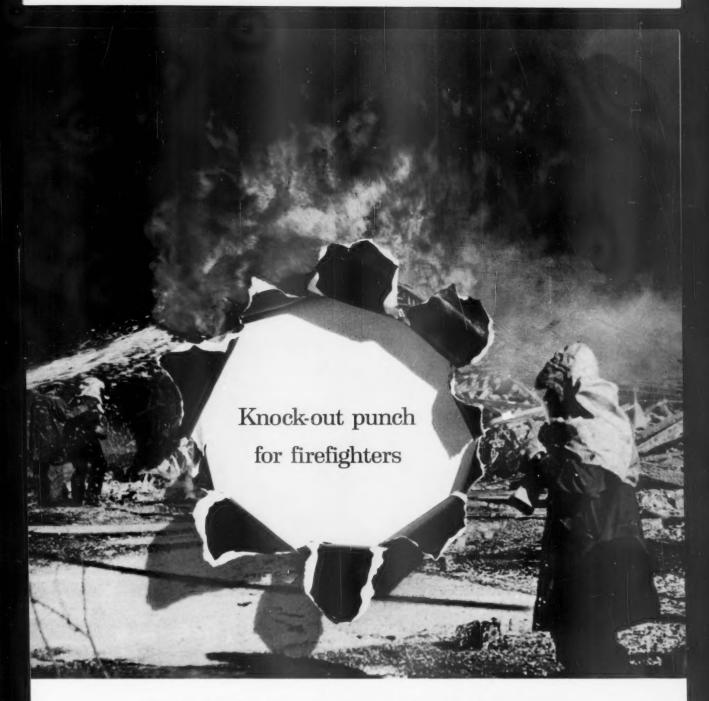
the short term view, following the line of least resistance, dictated that inasmuch as each man knew his work so well, it was best to keep him at it. The lack of diversified training only became a problem when there was a need to fill the top job.

Somehow these men have to be retrained. Time must be set aside from their already overcrowded work schedule so that they can learn more about the overall purchasing operation. They must be encouraged to help each other—even though they are competing for the same job. They must be encouraged to read up on purchasing, to attend trade association meetings, perhaps take courses that will fill in their information gaps.

The most effective way to accomplish this is to have them participate in planning their own development. The intelligence and enthusiasm each contributes to his self-development will not only accelerate the training program but will have a bearing on which man is best qualified for the promotion.

These men also have to be given a chance to make decisions. Far too many companies restrict decision-making to the higher executive levels which means that when a man is promoted to a management job he has had very little previous decisionmaking experience. He's put into a management job on a sinkor-swim basis. This is unfair to the man, risky for the company. If a company is to make certain that it will have the managers it needs in the future, trainingespecially in decision-making-is a must. END





#### Dow tailors new formulations from long-familiar chemicals

Faced with a problem in product development or in processing, Dow Research often turns to an old-timer on the chemical roster and uses its unique properties to create a new, improved formulation.

Double-barreled extinguisher. Water or foam can bring a fire under control. But a total kill requires a powerful mopup agent. From a long-familiar chemical, bromine, Dow developed chlorobromomethane, an oxygen-blocking spray which delivers this coup de grace to fires in their last deadly stages. This led researchers to introduce fast-reacting bromine into the formulation of plastics and resins to produce self-extinguishing materials which do their own firefighting. If you make building materials, textiles, any product which could benefit from fire protection, consider including bromine in its make-up.

Paradox in paint. The very properties which give the new epoxy paints their outstanding adhesion also make them difficult to remove from conveyors and spray equipment. To resolve this paradox for the automotive industry, Dow turned to caustic soda, long used for paint stripping, and added an activator. The new formulation removes paint quickly and effectively and presents no waste disposal problem.

For technical information on brominated organic compounds or caustic soda formulations, or for help on any chemical problem, write us in Midland.



904 Light Blue 905 Aquamarine

906 Copenhagen Blue

908 Dark Green

907 Peacock Green

909 Grass Green

911 Olive Green

910 True Green

912 Apple Green

914 Cream

913 Green Bice

916 Canary Yellow 917 Yellow Orange

920 Light Green

919 Sky Blue

EAGLE

PRISMATALAR

THICK LEAD COLORED PENCILS Promote greater efficiency in every department!



#### MANUFACTURING DIVISION

Parts Inspection | Production Planning . Pattern Marking . Touching up Small Flaws



Marking IBM Cards . Checking Records . Identifying Credit Items . Distinguishing Dollars from Units



#### GENERAL OFFICE

Giving Priority to Orders • Checking • Routing Mail • Filing • Coding by Color Signatures • Preparing Graphs and Charts



Area Maps . Distinguishing Monthly and Annual Totals and Quotas . Coding of Dealers and Consumers . Sales Charts



#### ADVERTISING and ART DEPARTMENTS

Ad Layouts and Comps . Package Design Product Design • Flip Charts

#### PERSONNEL DEPARTMENT

Visual Presentations for Employee Training Marking Aptitude Tests
 Coding Wage and Salary Classifications



#### DRAFTING and TECHNICAL DEPARTMENTS

Marking and Correcting Plans and Blueprints . Classifying Materials . Clarifying Complex Charts and Drawings



#### PURCHASING DEPARTMENT

Marking Weights, etc., in Receiving and Shipping Maintaining Maximum-Minimum

Systems . Checking Orders, Invoices, etc.

I've indicated below:

EAGLE PENCIL COMPANY, Headquarters: Danbury, Connecticut

FILE OUT THIS COUPON FOR ANY 3
PRISMACOLOR PENCILS! Select any three colors from the colors shown here!

EAGLE

FAGLE TUROUDISE PRIMATALAR

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EAGLE TUROUDISE PRISMAN AT AR GRASS GREEN 909

EAGLE PENCIL CO DEPT. 94 Danbury, Connecticut

937 Tuscan Red

941 Raw Umber

942 Yellow Ochre 943 Burnt Ochre

945 Sienna Brown

946 Dark Brown

949 Silver 950 Gold 951 Copper

(COLOR) (COLOR) (COLOR) TITLE COMPANY **ADDRESS** ZONE STATE

Please send me FREE, 3 PRISMACOLOR PENCILS in the 3 colors

938 White

940 Sand

944 Terra Cotta

948 Sepia

956 Light Violet

915 Lemon Yellow

918 Orange

921 Vermilion Red

922 Scarlet Red

923 Scarlet Lake

924 Crimson Red

925 Crimson Lake

926 Carmine Red

927 Light Flesh

928 Blush

929 Pink

930 Magenta

931 Purple

932 Violet

933 Blue Violet

934 Lavender

935 Black

936 Slate Grev

## Computers Service Cards, Tape by Mail

PURCHASING AGENTS using punch cards or punch paper tape may not know it but there is an electronic computer at the bottom of their mail chute.

A recent development by The National Cash Register Co. makes it practical to use computers for conversion of coded data into, for instance, an inventory control report, without a large capital investment.

The Ohio manufacturer recently opened three electronic data processing service centers—in New York, Dayton, and Hawthorne, Calif. Each center has an NCR 304 computer. Because of the flexibility of paper tape particularly, it is convenient to mail the tape to a service center for fast processing and quick return.

A series of "package" systems will provide companies with infor-

mation vital for planning and improving operations. "Standardization of the various package plans makes possible more computing per dollar of cost, since time-consuming and expensive computer programming is kept at a minimum," says T. R. Bitterly, supervisor of the three centers.

#### Reports Ready in 48 Hours

The package programs are built around the use of customer prepared punch tape as the basic input medium. Transactions automatically punched in paper tape as a by-product of purchase order preparation, posting of inventory data, etc. represent the only operation to be performed by the customer.

The tapes are mailed to the service center. 48 hours later, finished reports are in the hands of the purchasing agent.

The service centers have been designed and developed to provide reports to other departments besides purchasing. Such services include:

 Sales analysis of individual products through the processing of tape created automatically as byproduct of customer invoicing.

 Tapes created during the posting of accounts receivable provide analyses of sales by individual salesmen, customers, and products.

• Detail analysis of customer activity to determine which accounts represent the greatest sales potential. Data are captured in punched tape as a by-product of regular posting.

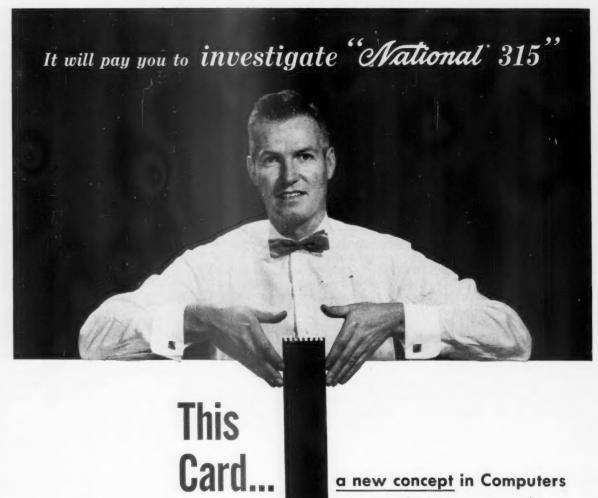
Other similar package plans are also available.

Write No. 39 on Information Card-Last Page



Three new data processing centers in New York, Dayton, and Hawthorne, Calif. will provide reports from customer-prepared punch tape or cards. The girl is operating an NCR 304 computer which is available in each center.

For More Facts About Ad
Con Facing Page Write in No. 211



This magnetic card is the heart of the National 315 Card Random Access Memory (CRAM)...an unequalled advance in economical magnetic file processing.

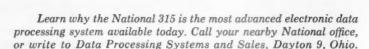
In effect, a reel of magnetic tape— $3\frac{1}{4}$  inches wide—has been cut into 256 strips forming addressable magnetic cards. A single card is capable of storing 21,700 alpha-numeric characters. Each card contains seven recording tracks that can be addressed electronically by the central processor.

The 256 cards (5,555,200 alpha-numeric characters) are housed in a removable cartridge that can be changed in less time than it takes to change

can revolutionize your data processing procedures.

a reel of magnetic tape. Up to 16 CRAM files can be operated on-line with the National 315... providing 88,883,200 alpha-numeric characters... an unprecedented range of random accessible memory.

This unique system combines all the advantages of random and sequential processing...eliminates rewind time...requires fewer files... speeds sorting, up-dating, and reporting routines. INVESTIGATE THE NATIONAL 315 for economical price performance • For unusual expansibility • For high-speed, balanced processing • For economy of programming • For ease of operation.

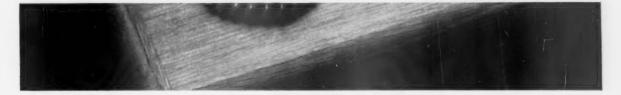


THE NATIONAL CASH REGISTER COMPANY • Dayton 9, Ohio 1039 OFFICES IN 121 COUNTRIES ... 77 YEARS OF HELPING BUSINESS SAVE MONEY





## ON YOUR DESK... two telephones can't live as cheaply as this one



Why burden yourself with the capital investment and maintenance headaches involved in owning and operating your own system for interoffice and inplant communications? One integrated Bell telephone system is all you need to handle both inside and outside calls.

Intercom and interoffice telephone facilities can be incorporated in your regular Bell installation. This one system is more flexible and more practical than two separate installations. Through one instrument, you can communicate across the hall or across the country. You can set up telephone conferences with key people, internally and externally. You can keep outside lines free to take incoming calls. The system is tailored to your exact needs, and can be changed as your needs change—with no capital investment on your part.

Let a Bell System Communications Consultant take a look at your present installation. His advice may save you money or make you money, or both. Just call your Bell Telephone Business Office for this free consulting service. No obligation.

#### BELL TELEPHONE SYSTEM

The one source for all business communications



#### Office Equipment and Supplies



A modern partition system of prefinished components which can be assembled economically has been announced by Simpson Timber Company, 2041 Washington Building, Seattle 1, Washington. The partition is comprised of a rigid core of insulating board faced on both sides with prefinished hardboard. Machined erection components complete the system. Partitions and paneling may be cut at the job site, using either a hand or power saw.

Write No. 40 on Information Card-Last Page



A new line of drafting film was announced by Arkwright Finishing division, Arkwright-Interlaken, Inc., Fiskeville, R. I. The film comes in white or blue, single or double matte, and in sheets or rolls. A sample folder will be sent without charge.

Write No. 41 on Information Card-Last Page

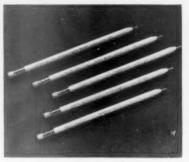
Newly developed heat-sensitive materials, under the name Photek Thermocopy Papers, are now being sold on a national basis. The papers are available in opaque and translucent sheets, 8½" x 11" and 8½" x 14". The opaque sheet is designed for general office copying in thermographic machines. The translucent material can be copied on either side, and will also serve as diazo master. Both products will be sold in 500 sheet units by Photek, Inc., 50 South Main Street, Providence, R. I.

Write No. 42 on Information Card-Last Page



An automatic dialer has been developed by the Thomas A. Edison Division of McGraw Edison Company, Orange, N. J. Magnetic tape stores up to 290 telephone numbers, from local to long-distance. The unit will automatically dial a selected number by a push of the dialing bar. The dialer is available through the Bell system telephone companies.

Write No. 43 on Information Card—Last Page



A pen, especially designed for the needs of secretaries and stenographers, has been introduced by Eberhard Faber Pencil Co., Crestwood, Wilkes-Barre, Pa. The barrel of the new pen is a feminine pink with matching eraser and blue ink.

Write No.44 on Information Card-Last Page



Luxury line of battery operated clocks was recently introduced by Tele-Norm Corp., 55 West 42nd St., New York, N. Y. They are self-winding and require no electric cord or outlet. The new clocks are available in suspended or flush mounts for wall use and in desk and mantel models.

Write No. 45 on Information Card-Last Page



A lightweight and compact unit has been designed for making copies of drawings in field offices where volume is moderate but value of originals is high. The new unit will handle translucent copy up to 42" in width. A new tube, made of transparent plastic, permits the operator to watch development. Because of its square shape, it keeps the paper in minimum contact with the walls of the tube. It is a product of Ozalid Division, General Aniline and Film Corp., Johnson City, N. Y. Write No. 46 on Information Card-Last Page

A letter rating guide is available, without charge, from Better Letters Exchange, 105 N. State St., Howell, Mich. The recently published guide helps to improve letter writing and reduce costs on written communications.

Write No. 47 on Information Card-Last Page

### "MOORE FORMS HELPED US AVOID A 49-WEEK PRODUCTION DELAY"

-- says J. A. Gorgenson, System Man-of-the-Month and Skybolt Program Manager at Douglas Aircraft Company, Inc.

66 THE SETTING: Production of our Skybolt missile is, in one sense, the control of statistics—millions of manhours to be analyzed, 20,000 events to be coded and computed. Our former system used three different typewritten forms, with inefficiency, errors, and an 8-day time lag. Our arrangement now, using a single continuous form, rises above production delays and forecasts man-hour needs accurately. In the Skybolt project it anticipated a 49-week delay sufficiently early to permit taking corrective management action.

THE SYSTEM: It is a computer-analyzed review of every detail of production. An Engineering Status Report is the key document, showing engineering management the prog-



ress of jobs. It includes—original estimate of man-hours, hours charged the previous week, total hours to date, estimated hours still to be expended. The statistics come through the group planner and are carded, together with stored constant data. The project planner sees the program-wide picture in the print-out.

He reads up-to-the-minute facts on hours, estimated vs. actual; worker performance; costs. With this control, forecasts can be made accurately, man-power can be assigned and, where needed, corrective action can be taken. The form is Moore's 4-part Speediflo—our control in print. We found the Moore man quite helpful, both in his understanding of data processing problems and his knowledge of forms constructions. \*\*\*

If your system would profit from experienced help and advice, write the nearest Moore office—without obligation, of course.

Moore Business Forms, Inc. • Niagara Falls, N. Y. • Park Ridge, III. • Denton, Tex. • Emeryville, Calif. Over 300 offices and factories in North America.

**Build control with** 

#### MOORE BUSINESS FORMS

## Chicago Is Ready For N.A.P.A. Convention

PLANS FOR the upcoming 1961 convention of the National Association of Purchasing Agents in Chicago are just about complete. The program, under the direction of Harold A. Berry, Chicago, Rock Island & Pacific Railroad, includes speakers and topics to suit the taste of every purchasing agent.

Activities get under way Sunday evening June 4, with the Early Birds' Dinner in the Grand Ballroom of the Conrad Hilton Hotel. Breakfast meetings, which were an innovation at Los Angeles last year, will again be an important part of the four-day meet-

Late arrivals at the convention will miss the after-breakfast workshop scheduled for Monday morning by Robert Ames, United States Steel Corp. and chairman of the Office Buyers Group. There will be four additional workshops on Tuesday morning, and four on Wednesday morning.

Some of the other highlights of the convention include:

· A talk by Charles H. Percy, chairman of Bell & Howell Co. National committee

group luncheon meetings. · National committee forums

on Monday afternoon. • Richard B. Johnson, Consolidated Gas System, speaking on "Communications" at the general session Tuesday morning.

· Annual banquet and presentation of the J. Shipman Gold Medal Award Tuesday evening.

 Panel discussion by leading economists-with Chester F. Ogden, Detroit Edison Co., serving as moderator.

• The Inform-A-Show, which opens Sunday afternoon at 2 p.m.



Duncan S. Gregg, Kaiser Aluminum & Chemical Corp., will moderate a panel group covering the topic Standardization." He is chairman of the standardization development committee of N.A.P.A.



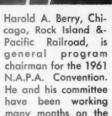
Louis J. DeRose, editorial marketing consultant for Purchasing Magazine, is one of the featured speakers on the Tuesday morning program. His topic, "Foreign Buying," should provide many interesting answers.



Harold A. Berry, Chicago, Rock Island &-Pacific Railroad, is general program chairman for the 1961 many months on the program.

Helen H. Waterman, Chicago Motor Club, is chairman of the Ladies Entertainment Committee. The program for the ladies this year includes a talk by a psychologist on "Understanding Your Man."

Harry R. Wurster, Wyandotte Chemical Corp., will serve as moderator for the after-breakfast workshop on "Value Analysis." These early morning sessions proved extremely successful last year.





Here are two ways of looking at the outside and inside quality of Roebling Royal Blue Wire Rope—the uniformity of wires and strands. Their symmetry would be relatively insignificant, however, without Royal Blue's extra high strength. It's the combination that is the source of real wire rope savings. For long, economical service on

every kind of job, there is no substitute for the tried and proven quality of Roebling Royal Blue. It pays off for you.

Royal Blue. It pays off for you.
Learn more about Royal Blue
from your wire rope distributor, or write now for free
booklet to Roebling's Wire
Rope Division, Trenton 2, N.J.

ROEBLING

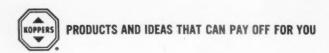
Branch Offices in Principal Cities John A. Roebling's Sons Division The Colorado Fuel and Iron Corporation.



Inality inside and outside



We put a lot of work into it— You get a lot of work out of it



#### Can this new fire-protected wood solve a building problem for you?

Non-Com\* fire-protected wood *has* solved problems of cost, time or materials for many architects and builders. Here are the reasons why:

- Non-Com is fire safe . . . it has the lowest fire hazard classification ever assigned a wood product.
- · Non-Com protection is permanent.
- Chemicals impregnated deep in the wood provide automatic protection against the spread of fire.

These properties further enhance the superb natural qualities of wood as an architectural and structural material.

Now, Non-Com fire-protected wood may often be used where other more expensive non-combustible materials were previously required. For example, it is now being used for studding in high rise apartments, roof decks in dormitories and shopping centers, framing in schools.

Each piece of Non-Com lumber and plywood is clearly identified with the label of Underwriters' Laboratories, Inc. and mark of the Factory Mutual Association. For more information on Non-Com treated wood and its uses, check the coupon.

\*Koppers Trademark





#### Low budget your problem? Try pole-type buildings!

That's what H. J. Heinz did to warehouse the steppedup production of their Fremont, Ohio plant. They selected a pole-type structure because it could be built faster; it made a strong, permanent building that requires very little maintenance; and it cost about half as much as other types of construction. Koppers Pole Buildings using pressure-treated poles, require no excavating, no costly foundation, no custom fabrication and no long, drawn-out erection time. Interested in saving money on permanent construction? Check the coupon.



## No decay in wood cooling tower in spite of heat and moisture

This 22-foot diameter, six-bladed aerodynamic fan is one of four built by Koppers Metal Products Division for the water cooling tower installation at the atomic reactor testing station near Idaho Falls, Idaho. These exceedingly efficient fans help the redwood tower cool 24,000 gallons of water per minute. And in spite of the tremendous heat and moisture, the wood has lasting protection from fungus and decay because it was pressure-treated with Erdalith® salts, an *insoluble* Koppers preservative, driven under heat and pressure deep into the cells of the wood. Check the coupon for more information on cost-cutting pressure-treated wood and vibration-free Aeromaster fans.



## Pipeline coating stays "picture perfect" after 6 years

Engineers used a specially designed waterproof camera to check the interior of this combination sanitary-storm sewer pipe in Jersey City. Six years ago the 24" diameter concrete pipe was lined with BITUMASTIC® Super Service Black, one of the protective coal-tar coatings produced by Koppers. In spite of the daily flow of 500,000 gallons of raw sewage and abrasive washings from storm sewer interceptors, the BITUMASTIC coating was still in excellent condition; no cracks, breaks or peels. For more information about Koppers tough coal-tar coatings, check the coupon.

### KOPPERS



Divisions: Chemicals & Dyestuffs
Engineering & Construction • Gas & Coke
Metal Products • Plastics • Tar Products
Wood Preserving • International

PUT THESE IDEAS TO USE NOW!

To: Fred C. Foy, Chairman Koppers Company, Inc., Room 1429 Koppers Building, Pittsburgh 19, Pa.	2-
Please send additional information about:	
☐ NON-COM Fire-protected Wood	
☐ Pole-Type Construction	
☐ BITUMASTIC® Coatings ☐ Cooling Tower Lumber	
AEROMASTER Fans	
Name	
Company	
Job Title	
Address	
City Zone St	nto.

## Value Analysis is Featured At Carolinas-Virginia Meeting

THE SPRING MEETING of the Carolinas-Virginia Purchasing Agents Association, held at Greenville, S. C., proved that every meeting is a big one for this association.

Because their territory covers three states, the members decided long ago to conduct quarterly meetings rather than try to hold meetings every month. Instead of one local speaker, they can attract a number of national speakers; instead of a meeting that lasts for a few hours, their meetings last two days. As one member commented, "Instead of having one big annual meeting, this way we have four of them. We

believe we get a lot more out of our quarterly meeting than we would get out of three monthly meetings."

This meeting of the association brought speakers from Nashville, Cleveland, Pittsburgh, and Kansas City.

#### **Election of New Officers**

At the opening day session, new officers were elected. The 1961-62 slate will be headed by Hall B. Whitworth, Carolina division of Champion Paper & Fibre Company. B. B. Parker, Duke Power Company, was elected vice president. H. Greg Lee, Package Products Co., Inc., was elected secre-

tary and E. C. Taylor, Piedmont Natural Gas Company, treasurer.

The focal points of the meeting were addresses by Thurman Sensing, executive vice president, Southern States Industrial Council; Dr. Carl C. Byers, General Motors Corporation; C. Warner McVicar, director of purchasing and traffic, Rockwell Manufacturing Company; Kenneth A. Cruise, chairman of N.A.P.A.'s Value Analysis and Standardization Committee. A question and answer session was also conducted by Mr. Whitworth.

In his Friday afternoon presentation, Mr. Sensing pointed out

(Please turn to page 126)

A "value analysis team" at the meeting studies an item prior to making recommendations for improvement.



Three of the new officers of the Carolinas-Virginia Association: (l. to r.) B. B. Parker, vice president, Hall B. Whitworth, president, and H. Greg Lee, secretary.

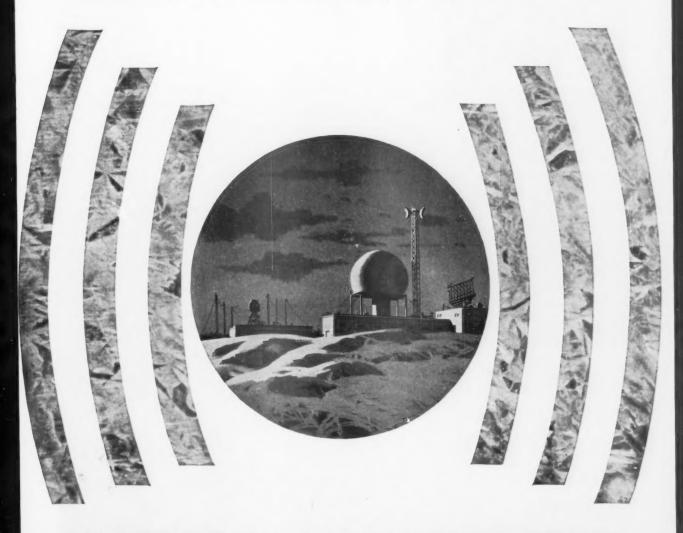




An attentive audience listens to a presentation at the Spring meeting held in Greenville, S.C.



U.S. Air Force DEW-Line buildings fend off corrosion . . .



#### **GUARDED BY GALVANIZED STEEL**

Galvanized steel sheets—over 300 tons—will fill a vital need in the construction of unique air terminal/storage buildings for our Air Force's DEW (Distant Early Warning) Line.

The need? Maximum strength plus a defense against the DEW Line's dew point. Based north of the Arctic Circle, these buildings and their interior warmth will abut against bitter outside cold to create a temperature differential up to 130°—and a condensation-corrosion threat as extreme as the -60° surroundings. To eliminate the threat, each building will consist of: insulated galvanized steel floor construction, galvanized steel for

outer skin of sidewalls, galvanized steel for inside (vapor barrier) face of sidewalls.

WEIRKOTE® IN PARTICULAR! To the inherent strength, economy and versatility of steel, Weirkote adds enduring zinc protection via the modern continuous process. As a result, Weirkote galvanized steel can be worked to the very limits of the steel base without chipping or peeling. And it assures you of long-lasting protection against corrosion. It is manufactured by two National Steel divisions, Weirton Steel and Midwest Steel. Write Weirton Steel Company, Weirton, West Virginia, for further details.



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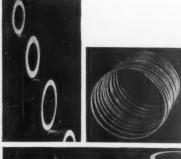
Portage, Indiana

WEIRTON STEEL Weirton, West Virginia



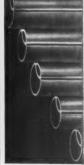
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NATIONAL STEEL CORPORATION









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#### VA Featured at Carolinas-Virginia Meeting

(Continued from page 124) that scientific advances of the past 50 years were greater than mankind had achieved during all previous history. Stating the next ten years could bring even greater achievement than the past 50, he said, "There is every possibility of attaining a standard of living and a way of life never dreamed of before." He decried the tendency of too many people to depend too much on government assistance



 C. Warner McVicar, Rockwell Mfg.
 Co., discusses the value of purchasing manuals.

and the loss of the individuality and self-sufficiency that were among the most important assets of our ancestors.

Among the questions asked during the question and answer session were those concerning blanket orders, procedure in changing vendors, relationship of purchasing with other departments, problem of "pre-purchasing," and evaluation of purchasing and vendor performance.

#### **Applying Human Relations**

The Friday evening banquet address was given by Dr. Byers. He discussed the importance of a positive attitude and the application of the principles of human relations in achieving success.

At the Saturday morning session, Mr. McVicar discussed the value of a purchasing manual to both purchasing and top management. He drew on his own experiences in using a purchasing manual as a management tool and told how he sold management on the

importance of a well designed purchasing manual.

Mr. Cruise, in the final address of the meeting, started his value analysis presentation by tracing the progress of the purchasing function during the past 30 years. He compared its early "clerical" status with its increasing recognition in management circles.

#### **VA Put Into Practice**

He highlighted his talk by dividing the audience into small groups of six or seven and distributing a "before" value analysis item to each group. He challenged them to spend fifteen minutes analyzing the item and to arrive at recommendations for improving it. Each group's report was compared with the item as it was actually changed in production. It most cases, the groups reached conclusions similar to those adopted by the manufacturer.

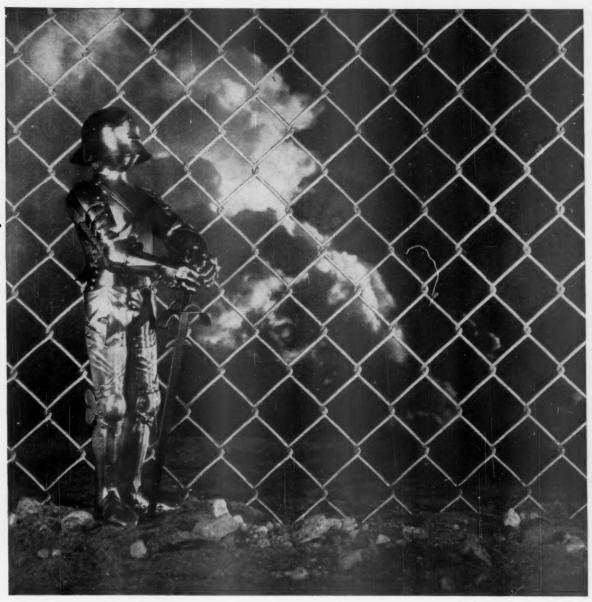
The Vasco chairman emphasized the need to "study the function" and told of the importance of giving credit to the individual or



Kenneth A. Cruise, Bendix Corp., holds up a value analysis example during his presentation.

department coming up with the new idea for improving the product. He told of the success achieved in one company with a "Value Analysis Idea of the Month," which was prominently displayed on a bulletin board in the company's reception room.

The summer meeting of the Carolinas-Virginia association will be held on June 23rd and 24th at the Homestead in Hot Springs, Virginia.



## Recognize this symbol of protection?

It's a Realock Chain Link Fence—the safe, permanent way to protect your property. Realock's quality fabric is made from top grade steel wire that withstands lots of punishment. For long-lasting protection, the fabric is expertly galvanized to prevent corrosion.

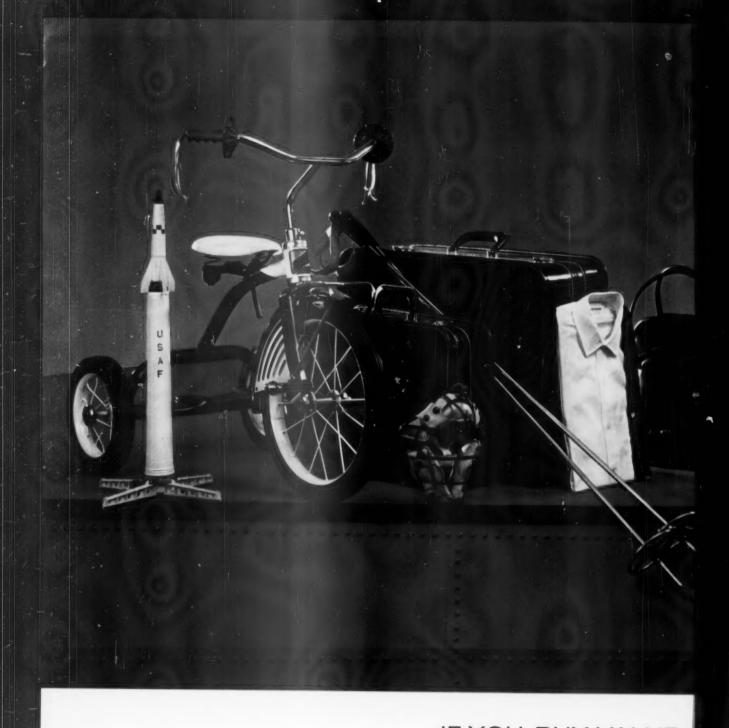
Realock Fence is available in a variety of styles. For a free estimate and complete details about Realock Fence, call the nearest CF&I sales office.



The Colorado Fuel and Iron Corporation Danver • Oakland • New York Sales Offices in Key Cities

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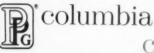
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#### **Association News**

#### District 8 Workshop Slated For June 14

Plans for a purchasing workshop, to be held on the Clarkson College of Technology campus from June 14-16, were announced Agents was James De Boer, from recently by



"The workshop is particularly important this year because top management in many companies has exhibited vital concern with cost reduction in the purchasing department," said Walter Willets, chairman of the district 8 program.

Conover-Mast Publications, Inc., chairman of N.A.P.A.'s professional development committee for district 8.

Dr. Howard T. Lewis, professor emeritus of Harvard Graduate School of Business administration, will conduct the program in Potsdam, N. Y. Patterned on last year's successful workshop, the curriculum will consist of important purchasing problems facing the purchasing agent in today's highly competitive market.

The program will include discussions of materials management, vendor relations, vendor rating, trade relations and value analysis. Richard H. Rawdon, assistant professor of business administration at Clarkson, and Dr. J. Ronald Frazer, chairman of the division of business administration, will present a session on "Decision Rules for Inventory Control."

The fee for the workshop is \$100. It includes registration, all course materials, two nights lodging, and meals.

#### Grand Rapids P.A.'s Delve Into the Law

Principal speaker at a recent workshop session of the Grand Rapids Association of Purchasing Walter Willets, the law firm of Barnum, Riddering, Wierengo and Christenson.

De Boer, in his discussion of "Purchasing and the Law," outlined the Robinson Patman Act and the Uniform Sales Act. He also covered expressed and implied warranties, legal protection for lack of acknowledgement, and default of contract.

The purchasing agent for the City of Detroit, Marvin Klange, was guest speaker at the dinner meeting. His topic was "What's New?" Klange stated that purchasing agents are asking the National Association of Purchasing Agents for help in two main areas: recognition from management and educational programs



The N.A.P.A. can help P.A.'s with a variety of educational programs says Marvin Klange, purchasing agent for the City of Detroit.

based on individual needs.

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The Purchasing Agents Association of Chicago went into its own membership for a top-notch expert to speak on foreign markets and foreign buying.

A recent meeting of the Chicago Association was devoted to the subject "Problems and Profits In Foreign Buying." Speaker for the occasion was Sam H. Mesha, Jr., purchasing agent for Arnold, Schwinn & Co.

#### Maine P.A.'s Plan **Purchasing Seminar**

The scenic campus of the University of Maine in Orono (near Bangor) will be the scene of the first annual seminar of the newly formed Maine Purchasing Agents Association. The three-day meeting features a number of outstanding speakers.

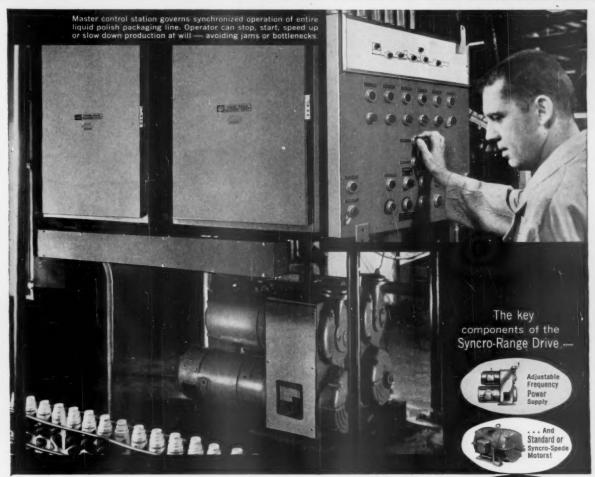
On hand for the kick-off session on Monday, June 12, will be Professor Wilbur B. England of the Harvard Business School, Professor England will lecture on purchasing and then give the group a chance to apply the principles of his lecture in a session devoted to real-life case studies of purchasing problems.

#### Set Session on Outlook

The Tuesday session will be devoted to the economic basis of purchasing and to purchasing procedure. Herbert Layport, manager of purchases of Wyman-Gordon Company, will speak on procedures. The dinner speaker, George M. Rideout, vice president of Babson's Reports, Inc., will tell "Where Is the Nation Headed (Economically)."

Wednesday's speaker will be Dr. Dean Ammer, executive editor of Purchasing Magazine. His topic will be purchasing ethics. After Dr. Ammer's talk, certificates for attending the conference will be presented at a luncheon.

Advance registration for the conference is being accepted by Harold F. Bell, 12 First St., Derby, Maine. The fee is \$30 per



## LOUIS ALLIS SYNCRO-RANGE DRIVES automate liquid polish lines



#### Johnson's Wax, renowned wax and polish producer, uses Syncro-Range Drives for exact control of process lines

Controlling the speed of the precise, mass-production lines for their new, highly successful liquid shoe polish was the task Louis Allis engineers had to solve for Johnson's Wax.

The problem was to time the flow of plastic bottles, liquid polish, wool daubers, and caps into the packaging lines at precisely equal rates. Flow rate must be adjustable so the lines can be slowed down or speeded up. And the entire packaging operation must be controllable from a single master control. The Louis Allis Syncro-Range Drive solved the problem.

Syncro-Range Drive provides synchronized speed of any number of motors from a single control. It is a "packaged system" comprising an adjustable frequency power supply operating on 3 phase, 60 cycle power input...a group of Syncro-Spede® synchronous motors which maintain exact synchronism regardless of varying load...and a control which permits the speed of the entire group of motors to be simply adjusted without losing synchronization. On applications for which

exact synchronism is not required, standard squirrel cage motors can be supplied.

You can readily see the advantages of the Syncro-Range Drive in systems or processes which require synchronized movement: multiple conveyors which feed consecutively; transfer lines; process lines; assembly lines requiring coordinated arrival of components; printing where one press feeds another; synthetic fibre spinning, drawing, or twisting; metal runout tables; and other similar machines which require the application of power at a number of points on the machine.

The Syncro-Range Drive is available with a choice of drive sizes to efficiently control from 2 to 200 motors. Control features are available to provide speed regulation accurate to 0.1% with 0% relative speed difference between motors! A trained Louis Allis motor application engineer is available to help. You can reach him at your local Louis Allis District Office, or by writing to The Louis Allis Company, 439 East Stewart Street, Milwaukee 1, Wisconsin.

LOUIS ALLIS

MANUFACTURER OF ELECTRIC MOTORS/AND ADJUSTABLE SPEED DRIVES

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May 22, 1961

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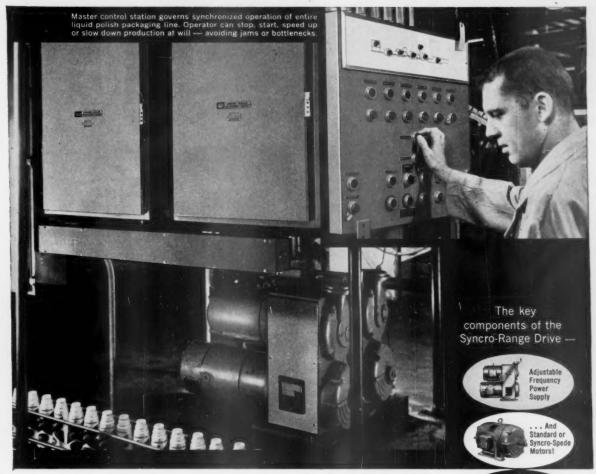
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**PAINTING AND FORMING OF ELECTRO PAINTLOK** at American Sanitary Partition Corporation. It provides an excellent corrosion resistant base for painting, synthetic enameling, lithographing, varnishing, or lacquering. Takes severe forming without damage to protective zinc coating.

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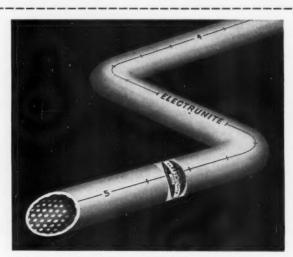
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Send for Republic's new booklet, PRODUCTS FOR THE DESIGN ENGINEER. Useful stainless steel selector chart plus data on high strength steels, titanium, precipitation hardenable stainless steels, electrical steels, vacuum arc melted steels, and others. Mail coupon.

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ELECTRUNITE ELECTRICAL METALLIC TUBING is still on the job in many installations after twenty-five years of service. Protected by a galvanized finish which will not chip, flake, or peel, ELECTRUNITE is preferred for concealed or exposed concrete as well as normal above ground installations. Send coupon for full information.

General Manager of American Partition Co. tells

## "WHY WE NOW BUY REPUBLIC ELECTRO PAINTLOK EXCLUSIVELY"

"Our sheet steel requirements are simple but extremely important ones," reports Mr. George Virtes, General Manager of American Sanitary Partition Co., Long Island City, New York, a leading manufacturer of commercial and institutional toilet partitions. "First, the stock we use must be absolutely flat and uniformly smooth. Any waviness or surface roughness would show up on our finished product because of the straight-line design and high gloss enamel we use.

"Second, since our product is exposed to scratches, bumps, and frequent scrubbing, we need a steel that will really take and hold paint, that will resist rusting when scratched or gouged.

"For a few years, we used Republic Electro Paintlok" and several other sheet products of a similar type. We compared performance in our fabricating operations, and on installed units. The results proved to us that Electro Paintlok does a consistently better job of meeting all our requirements. We now buy Republic Electro Paintlok 100%."

Electro Paintlok sheets are zinc coated by the electrolytic process, then chemically treated to provide an inert phosphate surface film. This produces a firm mechanical bonding of paint, lacquer, or enamel, and a protective surface which resists rusting when paint is damaged.

Republic Electro Paintlok is supplied in coils or cut lengths, widths to 60 inches, thicknesses from .0088 to .1083 inches. For complete information mail the attached coupon.



NEW BLUE STEEL used in Republic Drums and Pails helps you minimize drum replacement . . . provides improved corrosion resistance for longer life. Republic Containers are also offered in hot dip galvanized, hot dip tinned, lacquer lined—and in ENDURO® Stainless Steel. Send coupon for data.



#### REPUBLIC STEEL

REPUBLIC HAS THE FEEL FOR MODERN STEEL

Strong, Modern, Dependable



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Please send additional information on the following:

- ☐ Electro Paintlok® Sheets
- Republic Stainless Steel Sheets
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- Republic Steel Drums and Pails

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#### THE MAGIC NUMBER THAT MEANS BETTER WASHERS, FASTER DELIVERY

It stands to reason that the better a company's production facilities, the greater its workers' skills and experience, the finer its reputation is for making quality products...the surer you are of being satisfied.

129,000 sets of washer dies is a lot of washer dies. That is how many we constantly have in stock at Wrought Washer — another reason why Milwaukee Wrot Washers are of shapes, sizes and types "too numerous to mention."

Matter of fact, we have *more* than 129,000 dies to choose from when your orders for standards or specials come in... because virtually every day America's washer users present us with new problems, new requests that mean new dies being made.

Look at the small selection of samples pictured here. For almost 75 years washers and stampings have been our entire business. The range: diameters from 1/16 to 23 inches... thicknesses from .005 to 1 inch... every type of metallic and non-metallic material... any type of finish or machining.



**PURCHASING PERSONNEL** . . . Free samples available. Request on your letterhead, mentioning types of washers your company uses most frequently.



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WORLD'S LARGEST PRODUCER OF WASHERS

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### Value Analysis Saves Air Force \$500 Million

(Continued from page 62)

Hughes Aircraft Company cites several examples of its savings program:

(1) Value analysis. This program is showing excellent results. The company's Tucson Engineering Laboratories report \$2,426,000 verified savings for the past 18 months. Significant savings are also being generated in other divisions.

(2) Corporate procurement of common materials and services. Through increased vendor competition and volume buying, Hughes saved 11% (\$63,000) during the first seven months of 1960. By expanding the program, savings of \$2 million a year are expected.

(3) Cost reductions through analysis of subcontractors' costs. In a recent instance \$51,092 was saved by making certain test equipment available to a supplier who was paying an outside concern for testing.

(4) Team approach to buying. Example: In a recent negotiation a group of specialists from other departments was assigned to work with a buyer on an important subcontract. By intensive analysis and close negotiation, savings of \$495,000 were made on a fixed price procurement that totaled \$2.361,000.

American Bosch Arma Corporation reports the steps it has taken in line with the cost savings effort by the Air Force:

"Reorganization of our procurement operations has made our subcontracting activity a specialized
section under a purchasing agent.
Experienced subcontract buyers
have been placed in this section.
Subcontractor surveillance teams
are frequently placed in subcontractor plants to monitor progress,
pricing, product quality, and delivery. This has improved subcontracting performance immeasurably.

"Considerable progress is being made in finding multiple sources for former single-source items. A strong price analysis program is cutting costs in both subcontracting and general purchasing. Nego-

(Please turn to page 138)



AFTER 30 YEARS ON THE JOB... Okolite insulation still looks good. This unretouched photograph shows a section of 11.5 KV power cable recently re-assigned by Duquesne Light Company. Notice that the insulation is still flexible and resilient—workable. Tests show the tensile strength has deteriorated very little, remaining more than 33% above the original specification figure.

#### How long does an Okonite cable last?

#### 30-year-old Okonite cable still tests above specified values

Here's Okonite Cable'bility\* at work. It's "Old Faithful"—a 1250 MCM, Okolite-insulated power cable, made by Okonite's *strip process* back in 1929, now serving reliably as a mine power feeder for Duquesne Light Company of Pittsburgh.

This time-proven cable started in service in the Roaring Twenties as an 11.5 Kv lead from switchyard to transformer, handling 15,000 KVA loads. By 1942 power demands had increased and the cable began fifteen years of full load operation, 24 hours a day.

Then in 1957, "Old Faithful" was replaced by a

larger cable to handle a new 25,000 KVA load. At that time, the veteran Okolite insulation was pronounced perfectly suitable for the demanding tasks as a power feeder and was installed in its present location.

There are Okonite "Old Faithfuls" in use today in every application, providing circuit security for their users. That's because, as in 1929, Okonite still produces the most dependable cables available. The reason is Cable'bility\*, which is synonymous with The Okonite Company, Subsidiary of Kennecott Copper Corporation, Passaic, N. J.

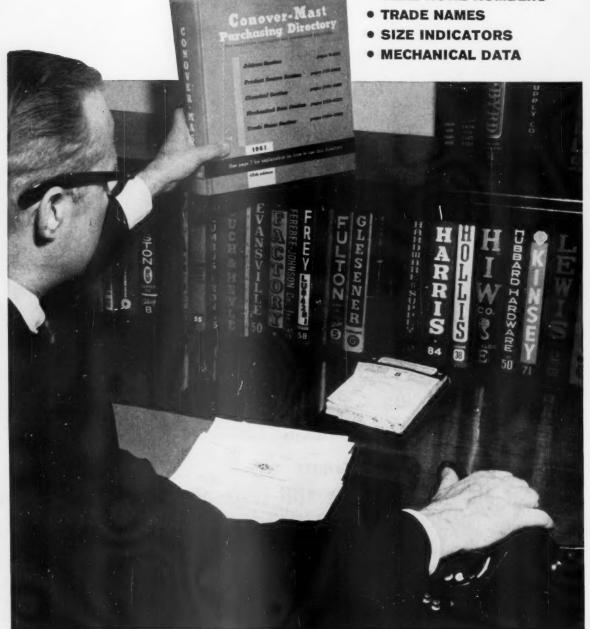
\*OKONITE Cable bility...cable craftsmanship since 1878.



where there's electrical power...there's OKONITE CABLE

#### **ONE** handy directory for

- PRODUCT SOURCES
- ADDRESSES
- TELEPHONE NUMBERS



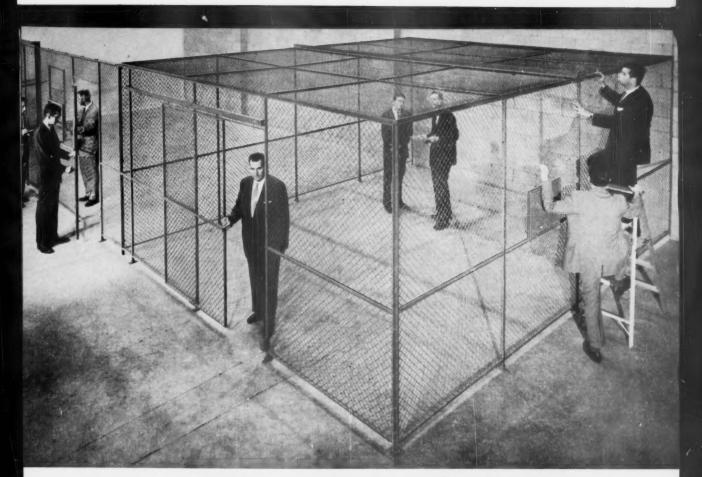
### Conover-Mast Purchasing Directory can be kept right at your desk

Because C-MPD is designed for industrial buying it is compact...yet complete. And now you can use it for checking telephone numbers of companies that sell to industry. Never before has so much information been put into one volume for industrial Purchasing Agents.

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## 4 New Ways to Save with stock size LOGAN wire partitions

Now you can meet virtually every plant partitioning need right from Logan's greatly enlarged stock of high quality, low-cost wire panels. And stock size Logan partitions are so easy to plan, obtain, and erect, you'll never again pay for made-to-order wire partitions. Send the coupon today for the complete brochure-catalog presenting Logan's . . .

- 1. NEW FULL-MODULAR PANEL SELECTION IN 4 STANDARD HEIGHTS—basic 5-ft.-wide panels, plus all filler panels, doors, and service windows for almost any floor plan, location, and function, with *no* special fabrication work to buy.
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four stock panel heights and a major new idea in vertical planning make it simple.

- 3. NEW LOW-COST STOCK SIZE WIRE CEILINGS—the extra security of completely covered wire enclosures now yours at far less than before...up to 20-ft.wide runs of any length...little or no special fabrication required...easy to plan and erect. Add a low-cost ceiling to your present partitions.
- 4. NEW STOCK SIZE SHEET-METAL BASE "FENDERS"—separate sheet metal panels that apply to base section of complete wire partitions... make built-in sheet metal sections old-fashioned because they give greater strength at no greater cost, apply to existing partitions as well as new, and are easily removable. Logan Fenders from stock may fit your present partitions—investigate today.

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POUR NEW WAYS TO SAVEL

LOGAN WIRE

PARTITIONS

#### LOGAN CO. BUILDERS IRON DIVISION

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Please send FREE the new Logan Wire Partition Catalog.

- Also please give name and address of nearest dealer.
- Have dealer call to give free partition planning help.

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POSITION.

COMPANY

ADDRESS

CITY\_\_\_

ZONE\_\_STATE

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### Value Analysis Saves Air Force \$500 Million

(Continued from page 134)

tiation with suppliers for full program requirements, without risk of termination charges, is expected to save \$598,374 on present commitments alone.

"For the past five years we have conducted an active cost reduction program in which all management personnel take part. Under this program, dollar targets representing planned reductions in operating costs are established for each department. Only verified savings are credited. While savings are calculated only on the first year of operation, they are in fact, continuous. From the time the program started, annual savings rose from \$508,000 for the first year, to \$1,512,000 in 1959. Total through the first eight months of 1960 was \$2,424,000."

The Martin Company reported that it also had tightened up its procurement practices to reduce costs. Here is the Martin report:

"Martin has set up new policies of control and supervision for its entire procurement system. We have more frequent internal audits of our purchasing function in such vital areas as pricing, source selection, and follow-on subcontract administration. In addition, we have instituted budgetary control against all material in our various projects to keep within established estimates; have created on-the-scene management teams to insure timely and economical performance by our major subcontractors; have established full-time procedures and policy control groups within our procurement organization which operates independently from our management engineering organization. And we have set up a separate group of cost analysts within our procurement organization to make sure that our subcontracts are let at the most economical price."

Thompson Ramo Wooldridge has this to say about its value analysis program:

"Value analysts, who are assigned to our purchasing depart-

ments, work closely with engineering in product design and in specifying materials. They also work closely with our manufacturing departments and with our suppliers to obtain cost reductions without impairing the performance or reliability of our products. Value analysis teams are assigned to selected projects. Subcontract costs have been substantially reduced in these areas."

Here is **Westinghouse Electric Corporation's** report on what it is doing to cut costs:

(1) Progress on all contracts, reviewed monthly, is checked against accumulated costs to provide a positive means for identifying trouble spots.

(2) We have expanded our systems group's studies of indirect costs. The group has produced savings eight times the cost of the

(3) Application of rigid cost reduction methods produces savings which appear as voluntary price reductions on defense contracts.

(4) We have developed more complete purchasing records which can be used to evaluate suppliers' performance.

(5) The company is in the process of hiring an ex-government employee who has wide experience in Air Force procurement matters. He will be assigned to the Director of Defense Contracts Administration and will work very closely with the Internal Westinghouse Audit Group in monitoring purchasing and subcontracting activities on defense contracts.



"Yes, I know your company works constantly to improve its product, but when do you suppose we'll begin to notice it?"

For More Facts About Ad on Facing Page Write in No. 226→



#### Call Crucible for special steels and special service

Crucible's inside account salesman confirms availability and delivery of any specialty steel - while you're on the phone.

In fact, he can confirm local delivery of any of the thousands of specialty steel items he carries in stock.

He takes personal responsibility, too, for cutting through any problems of scheduling, shipping or processing that may be plaguing you. He can also arrange for heat treating, forging, buffing, etc. at the lowest possible cost. And he'll answer your questions about metalworking, or get help if he can't.

He makes steel-buying easy because he's a trained, experienced steelman who knows the most efficient means of getting alloy, tool and stainless steels from Crucible to you. Just ask for the inside account salesman at the local Crucible steel center. Or write: Crucible Steel Company of America, Four Gateway Center, P.O. Box 88, Pittsburgh 30, Pa.



CALL CRUCIBLE - and ask to have your name added to the mailing list to

receive local stock lists.



CRUCIBLE | STEEL COMPANY OF AMERICA

#### **Employment Service**

Experience: Ten years with industrial manufacturer as production control manager, personnel manager, and presently as PA. Familiar with all phases of purchasing, perpetual inventory, traffic management, and cost reduction techniques. Desire management or purchasing position in a progressive organization. Age 34.

Education: B.A. degree in bus. adm. with psychology minor. Member N. A. P. A.

Will relocate. Prefer Ohio but will consider all offers.

Write: Box 10

Experience: Two years inside sales AAA1 refractory co. Eight years AAA1 china and refractory mfg. co.—three years inside sales, three years credit manager, one year asst. P.A., one year refractory production manager. Complete control of purchases. Age 35, married—3 children.

Education: B.S. bus. adm. 1949 W. Va. Wesleyan College. Major accounting—minors economics and history. U. S. Marine Corps schools civil engineering & drafting.

Will relocate. Write: Box 8

Experience: Three years industrial purchasing with electronic instrument manufacturer. Knowledge of government purchasing procedures. Instituted cost saving policies relating to purchasing precision machined parts, electromechanical assemblies, production tools, factory and office suoplies. Sub-contracting experience. Extensive administrative ability. Age 32.

Education: B.B.A. industrial management. Post graduate courses in industrial purchasing, economics.

Will relocate. Write: Box 25

Experience: Ten years experience as electrical purchasing engineer for large manufacturer. Heavy experience in various electronic control systems and instrumentation. Background includes six years experience as draftsman and designer of various process control systems. Experienced in estimating proposals for new business and coordinating activities with production and sales. Age 33.

**Education:** Presently pursuing a B.S. in electrical engineering at City College of New York. (5 years evenings)

Will relocate.

Write: Box 20

#### PURCHASING MANAGER

Must have successful supervisory purchasing experience in large manufacturing company. Must be a professional purchasing executive, knowledgeable in modern progressive purchasing procedures and techniques. Should have potential for broader purchasing management responsibilities. \$20,000-\$25,000. Write: Box 435.

Experience: Fifteen years industrial purchasing in distilled spirits industry (U. S. A.) and national dairy chain (Canada). Presently employed as manager of purchases for Canadian primary manufacturer. Annual sales—\$40,000,000. Experience includes multi-plant procurement policy formulation, organization, administration, contractual procurement of raw materials and construction contracts. Cost reduction and liaison with design and plant engineering. Age 48—five figure salary in materials management desired.

Education: Extension courses—commerce, factory management, chemistry, purchasing. Completed Alexander Hamilton Institute Business Administration, two-year course. Visual psychology (Ohio State University—U. S. Navy War Course). Former member N. A. P. A. Past president, C. A. P. A.—Local association.

Will relocate, but prefer Eastern or Midwest States.

Write: Box 31

#### HOW TO APPLY

Listings in this department are offered without charge. Both purchasing department personnel interested in changing jobs and employers in search of replacement or additions to their departments may take advantage of this service. When writing, specify whether you want the applicant's form or the employer's form. Address all correspondence - whether for forms, or in answer to an employment advertisement, to: Box No. Employment Service Department, Purchasing Magazine, 205 East 42nd Street, New York.

#### V. A. CONSULTANTS FOR EUROPEAN ASSIGNMENT

United States management consulting firm has openings in their European staff for experienced value analysis engineers. Operations are located in all West European countries and Great Britain. Required are mature individuals with back-ground and practical experience in value analysis and optional related fields such as purchasing dept., organization and methods. Ability to work in the local languages is necessary in most countries. University education, first class references and outstanding personal qualifications required. Fully qualified individuals are invited to write for our brochure "A Career in Manag-ing Consulting" to Box 434. Resumes should also be forwarded with request.

Experience: Seven years as buyer in purchasing department of midwest metal stamping and assembly co., selling 9 million dollars yearly, employing 450. Four years steel procurement, three years purchasing packaging, die castings, plastic parts, rubber goods, lenses, screws, rivets, clinch and weld nuts, springs, screw machine parts, decorative stampings, perforated metal, extrusions, dies etc. Qualified for P.A. position.

Education: Four years night school bus. adm. courses.

Will relocate. Write: Box 30

Experience: Ten years diversified experience purchasing in an Atomic Energy plant. Annual multi-million dollar purchases of raw materials, chemicals, laboratory supplies, oils, greases, coal gases, welding supplies, bearings, office and safety equipment. Knowledge of government purchasing procedures. Strong background in administration procedures, negotiations, inventory control, value analysis and integrated data processing system in purchasing.

Education: Evening courses in bus. adm.

Write: Box 23

For More Facts About Ad on Facing Page Write in No. 227→



## M&T produces a vinyl plastisol so tough it's used as a dishwasher lining

Among the tough jobs for which M&T vinyl plastisols are suited, one of the toughest is that of a dishwasher lining.

Consider the service conditions: scalding hot water, mixed with highly alkaline cleaners which are death on ordinary coatings, is hurled with high velocity against the tub. As if this weren't enough, the lining has to be resistant to food stains, avoid cutting and impact damage from accidentally dropped or broken objects. Equally important, it should be non-aging, last the life of the machine.

Which explains in part why the product engineers selected M&T's plastisol. It possesses the

quality to do the job...proved by torture testing the equivalent of 5 to 15 years' service.

The other factor which led to this choice was based on value analysis. A plastisol such as this could also do a better job than the former lining material, and permitted a redesign of the tub wall to save metal and cut costs.

Moreover, M&T has the facilities to maintain consistent quality; and the plant capacity to deliver the required volume, in the precise colors, on schedule.

Avail yourself of this kind of service and product performance when you purchase plastisols. Send for an M&T Man.



coatings · chemicals · minerals · detinning plating products · welding products
METAL & THERMIT CORPORATION, General Offices: Rahway, New Jersey

## NEWCO Oil Tempered



### SPRING WIRE

is
available
in all grades
and is
consistently
uniform
from coil
to coil.



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#### SPACE-TIME-MONEY-

# Save All Three with Square D QMB POWER PANELBOARDS



MOTOR STARTERS AND BREAKERS OR SWITCHES COMBINED IN ONE SPACE-SAVING PANELBOARD!

FACTORY-WIRED AND ASSEMBLED
OR ENCLOSURES AND COMPONENTS
AVAILABLE FROM YOUR
SQUARE D DISTRIBUTOR!

BREAKER AND SWITCH UNITS ARE
EXCLUSIVE PLUG-IN CONSTRUCTION.
INSTALLED OR REARRANGED
IN MINUTES!

If the above installation had been made the old way—with trough, and ganging separate switches and starters—it would have taken at least six feet of wall space instead of 30 inches, and four times the installation time.

After this panelboard is installed, Square D's exclusive PLUG-IN design permits circuit changes without costly down time. For extra safety, plug-in units are mounted directly above starters, permitting interlocking. No starter or disconnect door can be opened when switch is "ON."

QMB panelboards accommodate reversing or nonreversing starters, sizes 0 through 4; plug-in circuit breakers through 225 amperes; plug-in switches through 200 amperes (bolted through 600 amperes).



#### **Exclusive Breaker Unit Advantages:**

Plug-in construction • Each unit in individual steel enclosure with dead-front construction • Combine switch and breaker units in same panelboard, if desired

Write for the complete story-Square D Company, Mercer Road, Lexington, Kentucky



### SQUARE I COMPANY

wherever electricity is distributed and controlled

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## "Made OF Stainless Steel ... Made BY Jenkins"

Valve Performance Shows the Big Difference in that Spec!

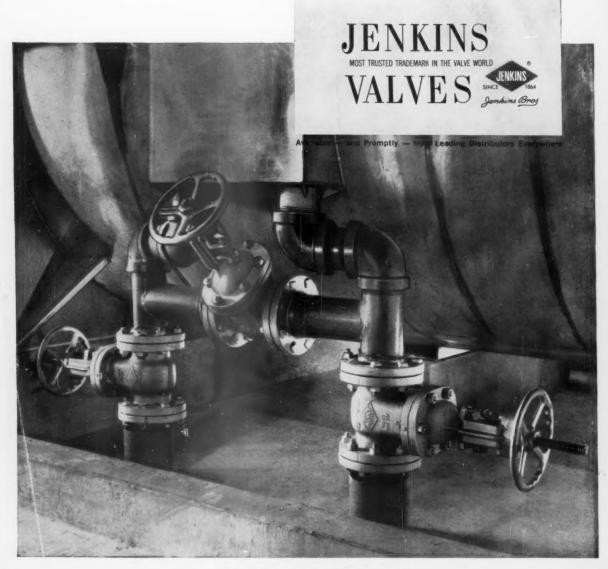
When service conditions require valves of Stainless Steel, remember that metal is only part of the answer to long, dependable valve performance.

The WAY valves are made is equally important. Factors you can't even see make a big difference. Such factors as perfection of castings... precision machining... painstaking inspection and testing... sound design. Most important of all: the maker's guiding policy about quality.

To be sure about all these critical factors, experienced

specifiers and buyers specify JENKINS as well as the metal alloy when Stainless Steel valves are needed. It is well-known that for almost a century Jenkins has made valves to *just one* standard of quality... the highest. At Jenkins every operation, every worker is aimed at fulfilling that standard, whatever metal a valve is made of.

SEND FOR NEW CATALOG 59-SS of Jenkins Stainless Steel valves in types and alloys to satisfy most needs. Jenkins Bros., 100 Park Ave., New York 17.



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